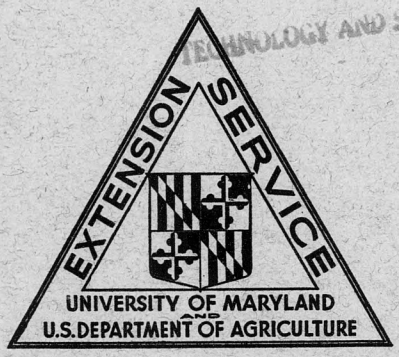
F. W. Oldenburg
42

EIGHTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE



TECHNOLOGY AND SCIENCE

FOR THE YEAR 1932

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Cooperative Extension Work In Agriculture and Home Economics, Extension Service, University of Maryland, and the United States Department of Agriculture Cooperating.

T. B. SYMONS, Director

Distributed in furtherance of acts of Congress of May 8 and June 30, 1914.

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Caroline	*W. H. Evans	Denton
Carroll	*L. C. Burns	Westminster
Cecil	*J. Z. Miller	Elkton
Charles	*P. D. Brown	La Plata
Dorchester	*W. R. McKnight	Cambridge
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Garrett	*J. H. Carter	Oakland
Harford	*H. M. Carroll	Bel Air
Howard	*John W. Magruder	Ellicott City
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(Continued on Third Cover Page)

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EXTENSION SERVICE

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(Continued on Third Cover Page)

EIGHTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE

YEAR 1932

LETTERS OF TRANSMITTAL

DR. R. A. PEARSON,

President, University of Maryland:

I have the honor to submit herewith the Eighteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year of 1932, together with a financial report for the fiscal year ending June 30, 1932.

Respectfully submitted,

THOMAS B. SYMONS,
Director, Extension Service.

January 1, 1933.

HON. S. M. SHOEMAKER,

Chairman, Board of Regents:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Eighteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1932, together with a financial report for the fiscal year ending June 30, 1932.

Respectfully submitted,

R. A. PEARSON,
President.

January 1, 1933.

TO HIS EXCELLENCY ALBERT C. RITCHIE,

Governor of Maryland:

I have the honor to transmit herewith the Eighteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, submitted to me through the President of the University.

Respectfully submitted,

S. M. SHOEMAKER,
Chairman, Board of Regents.

January 1, 1933.

EIGHTEENTH ANNUAL REPORT

OF THE

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE YEAR 1932

By THOMAS B. SYMONS, *Director*

INTRODUCTION

THE YEAR, 1932, has presented unusual problems and responsibilities to the Extension Service and has afforded unusual opportunities. Added to the ordinary problems incident to carrying on successfully the many phases of agriculture and farm life, there have been innumerable problems arising from the economic stress which people of all classes and callings have experienced. Never before has the value of a trained corps of workers who could devote their efforts to serving people in all sections of the State, on their farms and in their homes, been so conclusively demonstrated. Several of the emergency measures designed to relieve serious conditions could not have been carried out had it not been for the extension workers located in each county. Likewise these workers in the several counties proved of untold value as sources from which definite and dependable information regarding conditions could be obtained, which was necessary as a basis for determining important policies with regard to emergency needs and methods for meeting them.

The severe economic condition and efforts of rural people to adjust their operations and modes of living to their changed circumstances have resulted in greater demands upon extension workers than ever before. During these difficult times,

the county agents and home demonstration agents, and the specialists are rendering greater service than at any other period.

Value of Extension Work

ATTEMPTS TO EVALUATE the results of Extension Service activities prove inadequate, because there is no standard whereby the value of an educational movement can be accurately measured and expressed. No measurement in money value can be placed upon improved standards of living. Likewise, there can be no accurate estimate made and no expression in money values of the mental development, increasing self respect, initiative and leadership among men and women, which comes from the contact made by extension workers with farmers and their families. This is a contribution that this educational movement, through practical demonstrations with the men on the land and the women in the homes, makes to our steadily improving civilization.

It is not possible to estimate the value resulting from the spread of influence from such demonstrations, as for example, the encouragement to those in a community to beautify their homes that comes from a landscape demonstration; or the spread of influence from the adoption of a cultural practice in raising a given crop; or the control of an injurious insect pest or destructive disease. Discovery or development of an improved method, better varieties of crops, means of controlling destructive pests, and similar advances in agriculture, assume definite value in direct proportion to the extent they are put into practice. The Extension Service is the effective agency for putting into effect and giving tangible value to the results of research and experience.

Although the greatest value of educational work such as is carried on by the Extension Service cannot be interpreted in monetary standards, certain activities result in sufficiently definite accomplishments to reflect their values in fairly tangible terms. Some activities of this nature continue and increase in values through the years, while others are designed to meet emergency situations and, therefore, serve for a comparatively shorter time. In addition to the intangible values mentioned, which are by far the greater values, a conservative

estimate of the tangible value accruing to the people of the State annually from Extension activities would be in excess of $2,000,000.

Home-Made Farm Relief Activities

AS A SUPPLEMENT to the long-time program for Maryland Agriculture and Rural Homes developed in 1931, and the programs worked out by the several counties particularly adapted to their conditions and needs, the Extension Service carried on a program of activities designed especially to assist farm people in meeting the economic stringency. The fundamental aim was to aid in reducing expenditures to a minimum consistent with operating the farm and home satisfactorily, and in developing as many sources of income as possible. Measures encouraged in this program included such practices as production and preservation of as much food for the family and feed for livestock as possible, doing repair work at home, selling products at retail through roadside markets or otherwise, doing extra outside work, devoting most effort to most productive land and livestock, giving special care to preventing loss by diseases and pests, and other similar measures.

This program involved a wide range of activities, but proved of great value under present economic conditions.

Small Farm Survey

CONSIDERABLE interest was shown by a number of agencies in the possibility of placing unemployed families on small farms, with a view to enabling them to provide, at least in large part, for their own subsistence. In response to numerous inquiries along this line, a survey was made for the purpose of obtaining definite information upon some phases of the small farm situation in Maryland. County agents were asked to report for their respective counties the farms of small acreages which were providing all, or nearly all, the subsistence for a family, the character of farming carried on, the training and experience of the operator, and such other facts as would be helpful in determining the extent to which others might reasonably expect to succeed in similar undertakings.

Results of this survey were carefully summarized and provided a source of definite information which would serve as a

guide to individuals who contemplate locating on small farms, and also to any attempts that may be made to assist people in that way.

Artificial Barriers Limit Trade

THERE IS GENERAL AGREEMENT that the decline in international trade has been a major contributing cause to the present depressed conditions affecting agriculture. Every effort should be made by our Government to arrange as early as possible reciprocal treaties with various foreign countries to provide for exchange of agricultural and manufactured products.

The satisfactory outcome of various conferences and negotiations, in which the Extension Service participated actively, with a view to obtaining more favorable interpretation of trade regulations affecting export of Maryland apples is illustrative of the necessity for closest cooperation between countries and a reasonable interpretation of such regulations. Through the cooperation of E. Waterman and Co., of New York, and a committee appointed by the Council of Horticultural Societies, of which the Hon. Harry F. Byrd of Virginia is President, more than 15,000 barrels of Maryland apples were sold to Argentina this year, whereas the previous apple trade with that country had dropped from several thousand barrels annually to practically nothing.

The Committee and representatives of the United States were appreciative of the attitude of the Argentine Government in sending representatives to this country for the purpose of inspecting our fruit. Assurance was given the Committee that our Government would reciprocate by sending representatives to Argentina to assist in transportation of grapes, whenever requested to do so by the Argentine Government.

Progress in Marketing

GREATER PROGRESS was made in development of more satisfactory methods for marketing products of Maryland farms in 1932 than in any previous year. All of the cooperative organizations, which have been operating so successfully for a number of years, rendered even greater service to their members than in more normal times. In addition, outstanding progress was made in a number of lines which had

not shown definite development in past years. More or less detailed outlines of marketing projects and activities are given at other places in this report, but a few important conditions and developments deserve special mention.

Producers of dairy products are particularly fortunate in the success of their cooperative organizations. The three cooperatives serving dairymen in this State have succeeded in obtaining for their members the highest prices for their products that were received for dairy products in any section of the country. The Maryland State Dairymens' Association, the Maryland-Virginia Milk Producers' Association, and the Inter-State Milk Producers' Association deserve highest tribute for the effective service they have rendered during this trying period. The Extension Service has cooperated closely with these organizations and was particularly helpful in carrying out campaigns designed to reduce the number of low-producing cows and to convince farmers of the advisability of marketing their products through the associations, rather than through independent distributors. Stringent requirements placed upon producers in the Inter-State territory brought a heavy demand for assistance in making the adjustments necessary to comply with regulations.

The fine record established by the Maryland Tobacco Growers' Association was maintained through the year and the close cooperation, which has existed between the Extension Service and this organization from its inception, was continued.

Other commodity marketing organizations with which the Service cooperated closely in a wide range of activities include the Tri-State Packers' Association, the Maryland Agricultural Corporation, and the State Farm Bureau Wool Pool.

An outstanding development during the year was the perfecting of an organization for marketing Maryland livestock cooperatively. Such an organization has received consideration for a number of years. After numerous conferences and a large amount of preliminary work in which the Extension Service had an important part, the Eastern Cooperative Livestock Producers' Association opened for business on August 1 at the Baltimore Union Stock Yards. Its business has grown and gives every indication of continued usefulness to the livestock interests of the State.

Progress in development of improved methods for marketing Maryland eggs was extremely promising. One unit was in operation for nine months and during that time it sold 75,000 dozens of eggs at an average increase in net return to producers of four cents a dozen. Other units have been in operation for shorter periods with correspondingly gratifying results and still others are in the process of organization and will be in operation in the near future.

Establishment of farm women's markets proved especially helpful in adding to the farm income of a large number of families. Sales at one of these markets which has been in operation for the longest period and which is open two days each week, ranged from $400 to $1,200 a day.

Roadside markets have developed into an important outlet for farm products in Maryland. It is estimated that there are about 500 such markets, varying in size and extent, and that they do approximately a half-million dollar business annually. The Director of the Extension Service invited a number of operators of roadside markets to attend a conference, held in conjunction with the annual meeting of the Farm Bureau Federation. As a result of this conference, an organization was formed, known as the Maryland Farm Roadside Market Association. A number of projects have been started for the benefit of those engaged in the operation of roadside markets and it is anticipated that the organization will prove very helpful.

Activities along the line of grading and standardizing farm products continued to be one of the most important phases of marketing work. Results of efforts in this field are constantly becoming more apparent in the improved quality of products.

National Rural Electric Project

SINCE 1928 the Extension Service has cooperated with other forces in carrying on a project known as the National Rural Electric Project, with a view to guiding the use of electric power on farms along sound lines. This was supposed to be a five-year project and was conducted under a State committee, which included representatives of farmers' organizations, public utilities, and University authorities. The Director of Extension has served as secretary of the committee

since its organization and Mr. George W. Kable, a widely recognized engineer, directed the project.

A large fund of most practical data and information was developed by the several activities conducted during the last four years, but due to financial conditions, it was decided to conclude the project ahead of the time intended at its inception. It is hoped, however, that demonstration work based upon the results obtained may be continued.

Cooperating Agencies

AS IN FORMER YEARS, the Extension Service has followed the policy of joining forces with other agencies and organizations in constructive undertakings in behalf of the agriculture of the State. The fine cooperation extended by the various agencies is gratefully acknowledged. Closest harmony has existed with the general farm organizations—the Farm Bureau and the Grange—and the same is true of all commodity organizations. The harmony that exists among all the agricultural forces of the State has contributed much to the effectiveness of their efforts, particularly during the difficult period through which we are passing.

It has been the aim in this report to give due credit to the several cooperating agencies when discussing the particular projects with which they were connected, but if in any case such credit has been omitted, I hereby record the sincere appreciation of the Service for all assistance and support received in carrying on its many lines of work.

Activities of Home-Makers

THE SPIRIT and determination with which the rural women of the State have attacked the unusual problems forced upon them by economic conditions merit special mention. Under the supervision of Miss Venia M. Kellar, State Home Demonstration Agent, they have made notable achievements in carrying out programs particularly adapted to the present situation.

Specific measures whereby home-makers could adjust the maintenance of their homes and families to reduced incomes formed the basis for a wide range of activities. Particularly notable was the work done by the rural women in adding to the income of the family by marketing home-made and home-

Members of Rural Women's Short Course Observe Washington Bi-Centennial Year

Maryland Women Visit Washington's Home at Mt. Vernon. A Trip to This Historic Spot Was a Feature of the Rural Women's Short Course.

grown products. In like manner, their achievements in meeting the nutritional needs of their families by working out low-cost diets and utilizing home-grown products contributed much to solving their financial problems. Devising ways and means for clothing the family at low cost and utilizing materials on hand formed a fertile field for activity.

It is extremely gratifying that despite the difficult problems surrounding farm homes at present, the home-makers persisted in carrying on many of the lines of work conducted in former years with a view to increasing the comfort and attractiveness of rural homes. Their interest in beautification of home grounds continued unabated and there was increased interest in home vegetable gardens, poultry, and dairying, especially the care of milk.

More than 700 women attended the Rural Women's Short Course, which is held at the University each June under the auspices of the Extension Service. This course has become an outstanding event in the field of adult education for rural women.

Crop Yields and Values

MARYLAND AGRICULTURE has experienced fair yields and low prices for practically all crops during the year. In many respects, the farming industry of the State is in better condition than in most sections of the country and has withstood the severe economic conditions as well, or better, than many lines of industry and business.

The total farm value of the principal field, fruit and truck crops in 1932 is estimated at $24,474,000 by the Division of Crop Estimates of the U. S. Department of Agriculture. This compares with $35,905,000, the value of the same crops in 1931, and $40,588,000 for 1930. When the total value of crops for 1932 is compared with $62,566,000, which was the value of the same crops in 1929, the tremendous problem with which farm people have had to deal in adjusting their costs of operation and other expenditures to their reduced income becomes apparent.

In the case of most crops, yields were not decidedly below average, but the continued decline in prices resulted in shrinkage of values to the lowest point in many years.

A small increase was made in the acreage planted in corn, but with an average yield of 30 bushels to the acre, the total production was 16,440,000 bushels, which is nearly four million bushels less than in 1931. With the low average price of 31 cents a bushel, the crop was valued at $5,096,000 compared with $8,284,000 the year before.

Wheat acreage was 24,000 acres less than the preceding year and the average yield was 13 bushels per acre. With the low yield and reduced acreage, the production was 4,940,000 bushels or more than four and a half million bushels less than in 1931. The value of the crop was $2,470,000, compared with $5,042,000 the preceding year.

Oats, rye and buckwheat each showed small decrease in acreage and the yields and values of the crops were somewhat less than in 1931.

The acreage planted in barley was increased from 16,000 to 21,000 acres. With an average yield of 29 bushels to the acre, the total production was 609,000 bushels. At an average price of 37 cents a bushel, the value of the crop was $225,000.

Total value of the potato crop was about $300,000 less than in 1931, due in large measure to a reduction in acreage of 1,000 acres and an average yield per acre that was ten bushels below the preceding year. Production was 2,945,000 bushels, valued at $1,531,000.

Tobacco acreage was considerably reduced and the yield was lower than in 1931. Production was 22,750,000 pounds, which at an average price of 16 cents gave a value to the crop of $3,640,000. This is about $800,000 less than the value in 1931.

Prices for apples, peaches and pears were slightly better than in 1931, but production was much lower. In the case of apples and peaches, the yield was less than 50% of the preceding year.

A reduced acreage of tomatoes gave approximately twice as large production as the year before. Even at a much lower price, the value of the crop was $1,393,000 compared with $912,000 in 1931. Cantaloupes and strawberries also gave greater production and values than last year.

No outstanding change in the numbers of livestock on farms took place during the year, the principal change from the standpoint of the industry being a general decline in values

of practically all kinds of livestock. The total number of dairy cows and heifers showed an increase of about 2,000 and other cattle increased about 5,000.

The following tabulation from *The Maryland Farmer* is included as indication of the conditions surrounding Maryland agriculture, compared with the pre-war situation, and also as evidence of the effectiveness of the cooperative organization in maintaining the income of dairy farmers.

COMPARISON OF THE YEARLY VALUES OF MARYLAND FARM PRODUCTS, 1910-'14 (5-Year Average) AND 1932.

COMMODITY	Yearly Average 1910-1914		1932 Prices	Value of Prod.	Difference
	Prices	Value of Prod.			
	Per Bu.		Per Bu.		Loss
Wheat	99.27c.	$3,201,457.50	54c.	$1,741,500.00	$1,459,957.50
Corn	61.8c.	1,375,050.00	36.7c.	816,575.00	558,475.00
	Per Cwt.		Per Cwt.		
Beef Cattle	$6,21	1,154,128.50	$4.96	921,816.00	232,312.50
Hogs	$7.87	629,600.00	$4.77	381,600.00	248,000.00
					Loss
Total	------	$6,360,236.00	------	$3,861,491.00	$2,498,745.00
	Per Gal.		Per Gal.		Gain
Milk	16.16c.	$4,470,937.26	20.21c.	$5,591,944.70	$1,121,007.44

The figures given in the table for wheat, corn, beef cattle and hogs are for the entire State: the volume of milk is the amount handled by the Maryland State Dairymen's Association. It is pointed out by Mr. Heaps, Secretary of that Association, that had milk depreciated in value on the same ratio as other farm crops from the period of 1910 to 1914 as compared with 1932, the farmers in the Baltimore market would have received $2,877,842.31 less than they did receive in 1932.

In accordance with our custom of former years, a record of the estimated acreages, yields, and values of Maryland's principal crops is included in this report. These estimates are furnished by the Bureau of Agricultural Economics, U. S. Department of Agriculture, cooperating with our Service, and show the acreages, yields and values of the several crops for 1932, with comparable figures for two preceding years. The estimated numbers and values of livestock on farms at the end of the year are given also.

PRODUCTION AND VALUE OF CROPS.

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Corn*							
1932	548,000	30.0	16,440,000	Bus.	$.31	5,096,000	$9.30
1931	545,000	38.0	20,710,000	"	.40	8,284,000	15.20
1930	508,000	13.5	6,858,000	"	.93	6,378,000	12.56
Wheat							
1932	380,000	13.0	4,940,000	"	.50	2,470,000	6.50
1931	404,000	24.0	9,696,000	"	.52	5,042,000	12.48
1930	481,000	23.0	11,063,000	"	.77	8,519,000	17.71
Oats							
1932	57,000	25.0	1,425,000	"	.27	385,000	6.75
1931	67,000	30.0	2,010,000	"	.40	804,000	12.00
1930	49,000	30.0	1,470,000	"	.47	691,000	14.10
Barley							
1932	21,000	29.0	609,000	"	.37	225,000	10.71
1931	16,000	33.0	528,000	"	.45	238,000	14.88
1930	12,000	32.0	384,000	"	.75	288,000	24.00
Rye							
1932	19,000	12.0	228,000	"	.46	105,000	5.53
1931	21,000	18.0	378,000	"	.50	189,000	9.00
1930	19,000	15.0	285,000	"	.87	248,000	13.05
Buckwheat							
1932	5,000	17.5	88,000	"	.41	36,000	7.20
1931	7,000	22.0	154,000	"	.47	72,000	10.29
1930	7,000	14.0	98,000	"	.95	93,000	13.29
Potatoes							
1932	31,000	95.0	2,945,000	"	.52	1,531,000	49.39
1931	32,000	105.0	3,360,000	"	.55	1,848,000	57.75
1930	30,000	84.0	2,520,000	"	.95	2,394,000	79.80
Sweet Potatoes							
1932	8,000	115.0	920,000	"	.35	322,000	40.25
1931	11,000	183.0	2,013,000	"	.50	1,006,000	91.46
1930	9,000	70.0	630,000	"	.90	567,000	63.00

* Figures shown for corn include corn for all purposes.

PRODUCTION AND VALUE OF CROPS—Continued

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Hay (All Tame)							
1932	404,000	1.16	470,000	Tons	9.50	4,465,000	11.05
1931	381,000	1.23	469,000	"	12.00	5,628,000	14.77
1930	369,000	.84	309,000	"	22.80	7,045,000	19.09
Tobacco							
1932	32,500	700.0	22,750,000	Lbs.	.16	3,640,000	112.00
1931	38,200	775.0	29,605,000	"	.15	4,441,000	116.26
1930	35,000	535.0	18,725,000	"	.266	4,981,000	142.31
Apples (Total Crop)							
1932	------	----	1,368,000	Bus.	.50	684,000	------
1931	------	----	3,458,000	"	.45	1,556,000	------
1930	------	----	1,533,000	"	.80	1,226,000	------
Apples (Commercial)							
1932	------	----	252,000	Bbls.	1.60	403,000	------
1931	------	----	650,000	"	1.40	910,000	------
1930	------	----	330,000	"	2,40	792,000	------
Peaches							
1932	------	----	320,000	Bus.	$.85	272,000	------
1931	------	----	820,000	"	.60	492,000	------
1930	------	----	260,000	"	1.50	390,000	------
Pears							
1932	------	----	92,000	"	.55	51,000	------
1931	------	----	149,000	"	.45	67,000	------
1930	------	----	81,000	"	.85	69,000	------
Grapes							
1932	------	----	625	Tons			
1931	------	----	671	"			
1930	------	----	655	"			
Tomatoes (For Mfg.)							
1932	34,200	4.2	143,600	"	9.70	1,393,000	$40.73
1931	38,000	2.0	76,000	"	12.00	912,000	24.00
1930	48,900	3.1	151,600	"	17.40	2,638,000	54.96
Sweet Corn (For Mfg.)							
1932	20,500	1.5	30,800	"	6.80	209,000	10.20
1931	39,800	1.8	71,600	"	11.70	838,000	21.06
1930	34,000	.7	23,800	"	14.50	345,000	10.15
Cantaloupes							
1932	8,100	103	834,000	Crts.	.86	717,000	88.52
1931	7,550	90	680,000	"	.75	510,000	67.55
1930	7,010	55	386,000	"	1.55	598,000	85.31
Strawberries							
1932	7,600	80	608,000	"	1.35	821,000	108.03
1931	4,300	60	258,000	"	2.75	710,000	165.12
1930	7,800	53	413,000	"	2.90	1,198,000	153.60

Live Stock on Farms January 1, 1933

	Number	Value Per Head	Total Value
Horses and Colts	89,000	$68.00	$6,018,000
Mules and Mule Colts	28,000	89.00	2,492,000
Dairy Cows and Heifers	188,000	35.00	6,580,000
Heifers (1-2 years old)	26,000	18.00	468,000
Other Cattle	68,000	16.50	1,126,000
Sheep and Lambs	108,000	3.80	409,000
Swine	176,000	4.90	870,000

ADMINISTRATION

PRACTICALLY NO CHANGE has taken place in the administration of the Service during the past year. A splendid spirit of cooperation exists among all of our workers and our relationships with the other divisions of the Institution and the State Department of Education are most agreeable and satisfactory.

The relationship of the Service with the farm organizations of the State is likewise most agreeable. We are fortunate in that the members of the Grange, as well as the Farm Bureau, work in harmony for the promotion of the industry which they represent. Our forces have cooperated in urging upon the farmers the desirability of further organization and aided each group as far as we can properly do so in securing members for their organization. We likewise have endeavored to project our Extension activities through these organized units. We feel very fortunate that the utmost harmony exists between these organizations and their demonstration of cooperation in advocating a tax reduction program will no doubt cement further harmonious action.

The State, as well as the Extension Service, has sustained a severe loss during the past year in the death of Mr. James W. Davis, President of the Maryland Farm Bureau Federation, and in the death of Mr. Frank M. Payne, Secretary. Both of these gentlemen were exceedingly sympathetic with Extension activities and it was a grief to all Extension forces to have them taken away so suddenly. In other State publications suitable tribute is paid by the writer to these devoted workers.

We are fortunate in the selection of successors in the person of Mr. Miles H. Fairbank, the new Secretary of the Farm Bureau Federation, and Mr. Charles T. Cockey, Jr., the new President.

Owing to the depressed conditions affecting agriculture, it was natural that the Boards of County Commissioners would have much difficulty in adjusting their tax rates during these strenuous times. After most painstaking effort, with the splendid cooperation of the people, the net result of County appropriations was a decrease of $5,000 and an increase of

$1,000, leaving a net loss of $4,000 in the County appropriations for the support of the work. Considering the tremendous pressure that was brought to bear upon the Commissioners for reductions in all appropriations, we feel that they are to be highly commended for the support given the Service.

It has been a most strenuous year from the standpoint of administration, owing to the additional problems that naturally arise under economic stress. The Agents, Specialists and Administrative officers have been forced to do much extra work in addition to regular duties to meet the issue of the times.

Following are a list of specialists, county agents and home demonstration agents employed in the Service during the past year:

EMPLOYEES AT HEADQUARTERS—1932

*THOMAS B. SYMONS	Director.
*E. I. OSWALD	County Agent Leader.
*MISS VENIA M. KELLAR	State Home Demonstration Agent.
*E. G. JENKINS	State Boys' Club Agent.
*MISS DOROTHY EMERSON	Girls' Club Agent.
*MISS HELEN SHELBY	Clothing Specialist.
*MISS MARGARET McPHEETERS	Nutrition Specialist.
*MISS FLORENCE MASON	District County Home Demonstration Agent.
†G. J. ABRAMS	Specialist in Apiculture.
*W. R. BALLARD	Specialist in Landscape and Vegetable Gardening.
H. C. BARKER	Specialist in Dairying.
†F. B. BOMBERGER	Consulting Specialist in Marketing.
†R. W. CARPENTER	Specialist in Agricultural Engineering.
O. R. CARRINGTON	Assistant Extension Editor.
*K. A. CLARK	Specialist in Animal Husbandry.
*J. A. CONOVER	Specialist in Dairying.
†E. N. CORY	Specialist in Entomology.
†S. H. DEVAULT	Specialist in Marketing.
†J. A. DICKEY	Specialist in Farm Management.
†CASTILLO GRAHAM	Assistant Specialist in Entomology.
*T. D. HOLDER	Specialist in Canning Crops.
*H. A. HUNTER	Specialist in Canning Crops Pathology.
†R. A. JEHLE	Specialist in Plant Pathology.
*RICHARD KILBOURNE	Extension Forester.
G. S. LANGFORD	Specialist in Insect Control.
†DEVOE MEADE	Specialist in Animal Husbandry.
*P. E. NYSTROM	Specialist in Farm Management.
*F. W. OLDENBURG	Specialist in Agronomy.
*P. A. RAPER	Specialist in Poultry Marketing.
*W. H. RICE	Specialist in Poultry.
†C. S. RICHARDSON	Specialist in Education Extension
*S. B. SHAW	Specialist in Marketing and Chief, Maryland State Department of Markets.
*M. M. SHOEMAKER	Specialist in Landscape Gardening.
*P. W. SMITH	Specialist in Crop Statistics.
*A. H. SNYDER	Extension Editor.
†W. T. L. TALIAFERRO	Specialist in Farm Management.
†C. E. TEMPLE	Specialist in Plant Pathology.
*A. F. VIERHELLER	Specialist in Horticulture.
*C. E. WISE	Specialist in Agricultural Engineering.

*In cooperation with U. S. Department of Agriculture.
†Part-time specialists.

COUNTY AGENTS—1932

County	Name	Headquarters
Allegany	*R. F. McHenry	Cumberland
Anne Arundel	*Stanley E. Day	Annapolis
Baltimore	*H. B. Derrick	Towson
Calvert	*John B. Morsell	Prince Frederick
Caroline	*W. H. Evans	Denton
Carroll	*L. C. Burns	Westminster
Cecil	*J. Z. Miller	Elkton
Charles	*P. D. Brown	La Plata
Dorchester	*W. R. McKnight	Cambridge
Frederick	*H. R. Shoemaker	Frederick
Garrett	*J. H. Carter	Oakland
Harford	*H. M. Carroll	Bel Air
Howard	*John W. Magruder	Ellicott City
Kent	*J. D. McVean	Chestertown
Montgomery	*O. W. Anderson	Rockville
Prince George's	*W. B. Posey	Upper Marlboro
Queen Anne's	*E. W. Grubb	Centerville
St. Mary's	*G. F. Wathen	Loveville
Somerset	*C. Z. Keller	Princess Anne
Talbot	*R. S. Brown	Easton
Washington	*M. D. Moore	Hagerstown
Wicomico	*J. P. Brown	Salisbury
Worcester	*R. T. Grant	Snow Hill

Assistant County Agents

Allegany	*Milo S. Downey	Cumberland
Baltimore	*W. H. Carroll	Towson
Harford	*G. W. Clendaniel	Bel Air
Kent	*Stanley Sutton	Chestertown
Montgomery	*A. A. Ady	Rockville
Prince George's	*P. E. Clark	Upper Marlboro

Local Agents

Southern Maryland	*J. F. Armstrong (Col.)	Seat Pleasant
Eastern Shore	*L. H. Martin (Col.)	Princess Anne

HOME DEMONSTRATION AGENTS—1932

County	Name	Headquarters
Allegany	*Maude A. Bean	Cumberland
Anne Arundel	*Mrs. Georgiana Linthicum	Annapolis
Baltimore	*Anna Trentham	Towson
Calvert	*Elaine Knowles	Prince Frederick
Caroline	*Bessie M. Spafford	Denton
Carroll	*Agnes Slindee	Westminster
Cecil	*Priscilla B. Pancoast	Elkton
Charles	*Mary Graham	La Plata
Dorchester	*Hattie E. Brooks	Cambridge
Frederick	*Helen Pearson	Frederick
Harford	*Catherine Maurice	Bel Air
Howard	*Myrne L. Hendry	Ellicott City
Garrett	*Margaret Kirby Burtis	Oakland
Kent	*Helen M. Schellinger	Chestertown
Montgomery	*Edythe M. Turner	Rockville
Prince George's	*Ethel M. Regan	Hyattsville
Queen Anne's		
St. Mary's	*Ethel Joy	Leonardtown
Somerset	*Hilda Topfer	Princess Anne
Talbot	*Margaret Smith	Easton
Washington	*Ardath E. Martin	Hagerstown
Wicomico	*Marian G. Swanson	Salisbury
Worcester	*Lucy J. Walter	Snow Hill

Assistant County Home Demonstration Agent

Frederick	*Ernestine Chubb	Frederick

*In cooperation with U. S. Department of Agriculture.

Local Home Demonstration Agents

Charles, St. Mary's, Prince George's and Montgomery	*Mrs. Arminta Watson Dixon	1811 8th St., N.W. Washington, D. C.
Somerset	*Mrs. Justine Clark	Princess Anne

Garden Specialist

Baltimore, Md.	Mrs. Adelaide Derringer	3 East 25th St.

*In cooperation with U. S. Department of Agriculture.

Sources of Extension Revenue

DURING THE FISCAL YEAR ended June 30, 1932, there were available for Extension work the following funds: Federal Smith-Lever $60,024.48; State Smith-Lever $46,287.11; Capper-Ketcham $26,076.69; Federal Smith-Lever Supplementary $19,202.34; Additional Federal Cooperative funds $16,000; County Demonstration fund $65,102.29; State funds for General Extension $16,445.23; State Horticultural fund $13,772.55; Marketing Extension fund $12,480.61; Canning Extension fund $8,811.45; Poultry Extension fund $3,304.91; Dairy Extension fund $2,305.40; Tobacco fund $1,479.72; Beekeeping fund $1,160.71; State Dairymen's fund $3,360.83; Miscellaneous funds, including Advanced Registry, State Department of Forestry funds, Marketing Inspection funds, etc., $25,673.99; and $67,782.00 contributed by the various counties; or a total of $389,280.31. In addition, $29,431.11 was used for Japanese Beetle and insect control work, and $17,979.37 was disbursed by the U. S. Department of Agriculture; making a grand total of $436,690.79.

During the present fiscal year ending June 30, 1933, there are available: Federal Smith-Lever $60,023.83; State Smith-Lever $46,287.11; Capper-Ketcham $26,076.61; Federal Smith-Lever Supplementary $19,202.09; Additional Federal Cooperative fund $17,000; County Demonstration fund $66,000; State funds for General Extension $17,500; State Horticultural fund $14,400; Marketing Extension fund $14,000; Canning Extension fund $10,000; Poultry Extension fund $4,000; Dairy Extension fund $2,750; Tobacco fund $2,500; Beekeeping fund $1,500; State Dairymen's fund $5,000; Miscellaneous funds (estimated), including Advanced Registry, State Department of Forestry, Marketing Inspection funds, etc., $20,000; and $64,264 contributed by the various counties; or a total of

$390,503.64. In addition, there are available $25,000 for Japanese Beetle and insect control work, and $17,005 disbursed by the U. S. Department of Agriculture; making a grand total of $432,508.64.

Changes in Personnel

Dr. F. B. Bomberger appointed April 1, 1932, as Consulting Specialist in Marketing, in cooperation with the Federal Farm Board.

James A. Dickey appointed July 22, 1932, as Farm Management Specialist, in cooperation with the U. S. Department of Agriculture.

V. C. Howell resigned July 31, 1932, as graduate assistant in insect control.

Miss Edythe M. Turner transferred August 23, 1932, from District Home Demonstration Agent to Acting County Home Demonstration Agent in Montgomery County to succeed Miss Blanche A. Corwin, whose resignation was effective September 22, 1932.

Miss Margaret Smith appointed December 1, 1931, as County Home Demonstration Agent in Talbot County to succeed Mrs. O. K. Walls, who resigned June 30, 1931.

Miss Eleanor E. Knowles appointed October 1, 1932, as County Home Demonstration Agent in Calvert County to succeed Mrs. Alverta Miller Williams, who resigned September 30, 1932.

Equipment

OUTLAY FOR EQUIPMENT was kept at a minimum during the year and only such articles as were needed for replacement were procured by the Service. No special items of equipment were added. The supply of charts for use by the corps of workers was materially augmented and we now have on file a fair assortment applicable to the several lines of work and to the different sections and interests of the State.

Demands for exhibit materials continued and there is great need for more adequate provision for work in that line. An exhibit prepared for the State Fair at Timonium is illustrative of the type of work that is needed.

Efficiency of Workers

CLOSE COOPERATION of all workers is encouraged, particularly by a conference held at headquarters each month for specialists and supervisors. Developments in the several fields are reported and timely topics are presented for discussion by qualified leaders.

Group conferences of agents, held regularly in different sections of the State, proved very beneficial in affording opportunities for discussion of programs of work and making plans for emergency activities.

An annual conference of all Extension workers was held at the beginning of the year.

Records of Office Work

INCREASED DEMANDS for assistance in practically all fields of the work have required extra effort on the part of the office force. Under the supervision of Miss K. G. Connolly, Administrative Assistant, a competent corps of workers has met all demands. Miss Connolly assists also in detail administrative matters and takes pride in maintaining the financial records of the Service. During the year a total of 46,521 first-class letters was mailed from headquarters and the total pieces of mail numbered 145,505. In all, 402,991 first-class letters and pieces of mail were sent by the Extension Service throughout the State.

Publications

VARIOUS TYPES of publications, the public press, and radio have had an important part in carrying on almost every phase of Extension activities. During the fiscal year ended June 30, 1932, approximately 127,000 copies of bulletins, circulars and information cards were issued with a total of 572 pages. A four-page publication, the *Extension Service News*, was issued each month and sent to a regular mailing list of about 4,200. The primary purpose was to keep these leading farmers and home-makers informed regarding activities and plans of the Extension Service, the progress of important projects, and events and developments in agriculture having direct application to Maryland.

News Service—Relations with the public press were most cordial and excellent cooperation was received from all classes of publications. All weekly papers in the State were supplied regularly with releases carrying news of agricultural affairs and developments, and all important events were covered by special releases. The daily press was served by special releases and by assistance to reporters in obtaining material for

news stories. More than 200 regular and special releases were supplied to the public press during the year.

By means of feature stories in magazine sections of Sunday papers, the magnitude and importance of a number of lines of farming in Maryland were presented to large numbers of people, many of whom would not receive that type of informatiion in any other way.

Regular features were furnished to two farm papers that have a large circulation in Maryland.

Illustrations—Use of visual instruction material by specialists and county and home demonstration agents continued to increase. This was especially true as regards charts and graphs. Nearly 100 charts, posters, signs and the like were made, most of which were 42 by 65 inches and many of them in colors. The Service is especially fortunate in having a man who is capable of doing exceptionally high-class work in this line.

Facilities are badly needed for obtaining photographs for use in various forms of visual instruction and also for publicity purposes. Through the excellent cooperation of Mr. Reuben Brigham, of the Office of Cooperative Extension Work, U. S. Department of Agriculture, a large number of photographs have been obtained, but there is great need for a constant supply of most timely and up-to-date pictures.

Radio—Regular periods of broadcast were maintained at two radio stations and a number of talks were given at irregular intervals. In all, considerably more than 100 radio talks were prepared and given during the year.

In December, 1931, arrangements were made for a period of broadcast each week from Station WBAL, in Baltimore, and this schedule was maintained throughout 1932. Material was prepared principally by the Information Service and the talks were given by Mr. R. M. Watkins, of the Public Speaking Department. The majority of the programs consisted of conversations or interviews between Mr. Watkins and specialists of the Extension Service. This form of presentation proved very effective.

A regular weekly program was conducted also from Station WMAL, in Washington. The talks covered a wide variety of

subjects and were prepared and given by members of the faculty of the University and staff of the Experiment Station, as well as specialists of the Service.

Commercial broadcasting stations have given fine cooperation. Stations now granting the use of their facilities would provide for more frequent periods of broadcast and additional stations in Baltimore and Washington would grant time on the air, if facilities were available for preparing suitable material for broadcast.

Exhibits—There has been insistent demand for assistance in preparing material for exhibits but, thus far, it has been possible to meet this demand to only a very limited extent. One outstanding accomplishment in this line was made in 1932. An oil painting of the State of Maryland, 10′ by 30′, made for use at the Timonium Fair in connection with an exhibit featuring the canned products of the State, attracted a great deal of attention and favorable comment.

Publications Issued—During the fiscal year ended June 30, 1932, the following publications were issued: Bulletin 34, "More Vegetables from the Home Garden," (revised), 80 pages, 5,000 copies; Bulletin 43, "When Patterns do Not Fit", (reprint), 12 pages, 3,000; Bulletin 47, "Something on Floors", (reprint), 16 pages, 5,000; Bulletin 49, "A New Touch on the Old Furniture", (reprint), 20 pages, 3,000; Bulletin 50, "The Pattern Recipe", (revised), 16 pages, 3,000; Bulletin 54, "The Art of Baking", (reprint), 40 pages, 5,000; Bulletin 55, "Home Canning in Maryland," (reprint), 48 pages, 5,000; Bulletin 57, Certified Seed Potatoes", 32 pages, 4,000; Bulletin 58, "Potato Production at Lower Costs by Disease and Insect Control", 22 pages, 5,000; Bulletin 61, "The Girl's Room, Arrangement and Care", 16 pages, 5,000; Bulletin 62, "The Girl's Room, Color and Background", 20 pages, 5,000; Bulletin 63, "The Pattern Menu", 16 pages, 8,000; Circular 79, "The Culture of Peas for Canning", (reprint), 12 pages, 2,000; Circular 86, "Agricultural and Rural Home Program for Maryland", 22 pages, 5,000; Circular 87, "Maple Sugar and Sirup Recipes", 12 pages, 3,000; Circular 88, "Shipping Certified Plants", 8 pages, 3,000; Circular 89, "Maryland Honey in the Daily Diet", 6 pages, 12,500; Circular 90, "Milk for Health", 4 pages, 5,000; Circular 91, "Vegetable Dishes", 4 pages, 5,000; Circular 92, "Meat in the

Diet", 4 pages, 5,000; Circular 93, "Spraying for Better Fruit", 36 pages, 5,000; Circular 94, "Greenhouse Pests", 6 pages, 2,000; Circular 95, "Maryland Mushrooms", 6 pages, 2,000; "Peach Time in Maryland", 6 pages, 22,000; Poultry Calendar, 26 pages, 500; Seventeenth Annual Report, 90 pages, 2,000; Extension Service News, issued monthly, 4 pages, 4,200 copies each month.

County Demonstration Work

EXTENSION WORKERS located in the several counties of the State have rendered assistance in a wider range of activities during the last year than in any previous period. Readjustment in their programs of work was necessary from time to time to enable them to devote more of their efforts to pressing emergency problems. Many of the measures which have proved of vital importance to the agriculture of the State could not have been carried out without the aid and leadership of trained workers in the counties.

There has been no change in personnel of agents or assistants. Maryland takes pride in the fact that for a number of years each county has had the benefit of a full-time county agent, and there is a full-time assistant agent in six of the counties. Twenty-two full-time home demonstration agents are in service and one assistant home demonstration agent. Assistant county agents devote much of their time to 4-H club work, but are also assistants to the county agents in general activities.

Programs of work in the several counties vary to quite an extent, because of the widely diversified agricultural conditions in Maryland. Selection of projects by county agents were in accordance with recommendations of the long-time "Program for Maryland Agriculture and Rural Homes", developed in 1931, and with projects approved by the Extension Service of the U. S. Department of Agriculture. The County Agent Leader and specialists of the Service assisted in formulating the county programs. Economic phases of the industry, particularly farm management, had a prominent part in all county programs. Agents were called upon a number of times to secure reliable information regarding various problems and situations and they assembled and disseminated much data

and information on economic subjects. Notwithstanding the efforts devoted to activities that were of an emergency character, programs of work were carried out remarkably well.

County Programs of Work—A program for each county was formulated by the county agent with the assistance of committees from different sections of the county representing the various industries, and with the help and advice of the County Agent Leader and specialists. Officials of Farm Bureaus and Granges, and also of commodity organizations in a number of counties, gave valuable assistance in program planning. In a few counties where there were no local units of one of the general farm organizations, special Extension organizations have been formed to facilitate the work and are known as County Farm Federations.

In addition to the long-time county agricultural program, upon which the specific program for the year is based, calendar programs were worked out carefully by all agents and their organization officials and the County Agent Leader. These calendar programs could not be followed in detail, due to the demand for emergency activities, but they assisted greatly in dividing the time properly between the different projects and between the different sections of the county.

Emergency Activities—Some of the many emergency activities which required attention of the county agents were of outstanding importance. The feed, seed and fertilizer loans were handled in the same manner as in previous years, the county agent acting as secretary of the county committee and rendering valuable assistance to individual farmers in making application for loans.

One of the activities which required the assistance of all county agents was conducting a survey to secure information on the small farming situation in the State. The need for this survey was due to many requests for information relative to sustenance farming and the growing of small family gardens for the unemployed.

Agents were called upon also in emergencies to assist both farmers and organizations in securing markets for many farm commodities.

Marketing Activities—Each year brings greater demands upon county agents for marketing information and more emphasis was placed this year on marketing farm products, both cooperatively and otherwise. County Agents assumed active leadership in many activities, some of them State-wide in extent, carried on by the commodity marketing organizations operating in Maryland. Meetings were called by them, when occasion demanded, to discuss various phases of the cooperative movement and specific problems confronting the several organizations.

An outstanding accomplishment during the year, which required considerable work by the agents in several of the counties, was the formation of the Eastern Livestock Producers' Marketing Association. It is now functioning quite satisfactorily at the Baltimore Stock Yards.

Another marketing activity of great importance was the organization of the Maryland Egg Producers' Association, Inc., for grading and marketing eggs through well-organized channels in Washington and Baltimore. This organization, started in one county, is spreading into a number of counties.

Surveys were made and a large number of roadside markets were started under the general supervision and assistance of county agents and marketing officials.

Farm Economics— At the beginning of the year it was definitely decided that all Extension workers should emphasize the economic phase of agriculture to a greater extent than in former years. Each county agent was charged with responsibility for securing ten men who would keep systematic records of their farm operations. The quota of ten was exceeded in several counties. These farmers were assisted in making their inventory and starting their accounts and were visited at regular intervals for the purpose of giving such aid as was necessary. From the records completed at the end of the year county summaries were made to assist the county agent and his workers in formulating better farm management programs.

In addition to the work done in the field, the agents were called together frequently by groups to discuss the outlook of the country as a whole in an effort to study the economic situation in the respective counties. Outlook material was the

subject of paramount importance in practically all of the commodity meetings and farmers' gatherings.

Tours—Tours have proved a very effective method for teaching better methods in agriculture. State tours were conducted in connection with projects of importance to the State as a whole. County tours were held where the county agent felt the need of having farmers visit other farms and communities for the purpose of comparing methods of agriculture. In many instances, local community tours were held and a few farms in a given community were visited.

Special Campaigns—Several of the emergency problems required special activities and were handled by more or less intensive campaigns. These were well organized and advertised through publicity in newspapers, circular letters, and talks before farmers' meetings and business groups. Well-planned demonstrations were carried on in localities where the county agent and supervisor felt that they would be of greatest benefit to the public in general.

Scene at the George Washington Pageant, Held in Connection With the Charles County Fair. The Pageant was Sponsored by Citizens of the County, Many of Whom are Descendants of Historic Characters.

Fairs, Pageants and Community Exhibits—The Washington Bicentennial celebration afforded an excellent opportunity for staging pageants. In some counties, such as Charles, an elaborate pageant was staged in connection with their county fair, depicting "George Washington Our Neighbor." An excellent series of photographs was secured, through the cooperation of the Department of Visual Instruction of the U. S. Department of Agriculture, giving the State a graphic description of the history of Charles county during George Washington's time.

Granges and Farm Bureau Locals also held some excellent Bicentennial entertainments and exhibits. All of these proved of wonderful benefit in developing latent talent in communities and discovering leaders who had not been prominent.

Extension Service forces assisted in arranging exhibits and conducting demonstrations at State, county and community fairs, poultry shows, purebred ram sales, field days of breed associations, and similar events.

Tax Information—In many counties, where taxpayers' leagues were formed, it became necessary for county agents to supply accurate information regarding the tax situation. This information was disseminated in some counties through meetings at which the county agent showed the source of revenue and the items of expenditure in the county. A Statewide blank was provided which was adapted to giving information on a county basis, or for individual farms.

County agents gave valuable assistance in the campaign conducted by the Farm Bureau and Grange designed to relieve the burden of taxation on real estate.

Special Demonstration Projects—It has been customary for the County Agent Leader, the subject matter specialists, the county agents, and special committees to make definite plans in advance for carrying out special projects, either on a Statewide, a regional, or a county basis, for the purpose of dealing with some specific crop or problem. Several such projects were conducted during the year.

Notable progress was made in a special project designed to improve the potato industry, particularly to encourage the

production and use of certified seed. Special work was done also, with tomatoes for canning, production and handling of tobacco, marketing and grading cantaloupes, production and sale of maple products and with various problems affecting the dairy and poultry industries.

Negro Work

WORK WITH THE COLORED people of the State has always been conducted along the lines very similar to work with the white people. In sections where no colored workers are maintained, the white agents have given a limited amount of service, mostly of an emergency nature.

Four colored workers are maintained—two men and two women. A local agent and local home demonstration agent in Southern Maryland confine their activities to the five Southern Maryland counties and the local agents on the Eastern Shore carry on most of their work in Somerset and Wicomico Counties. The majority of the colored population of the State is found in these two sections. Local agents conducted demonstrations along lines approved by the Extension Service and as outlined by the County Agent Leader.

Farmers' institutes and short courses were held on a county-wide basis at which topics of special interest to colored people were discussed by local agents and subject matter specialists.

4-H Club work is a very important phase of activities among the colored people and much good work has been done by these clubs. A whitewash campaign on the Eastern Shore has continued for a number of years and has, no doubt, been the means of raising the standards of living and promoting sanitation.

HOME DEMONSTRATION WORK

HOME DEMONSTRATION activities in 1932 were based largely on helping the rural family in the home to meet the present economic situation. Such a program cannot be the specialists' or agents' program alone, but one in which the home-makers themselves participate.

At present, every phase of home-making interests must accept some sacrifice and the adjustment becomes a question

of relative values. With these facts in mind, the home demonstration staff, through the different home-makers' clubs and county organizations, met the problems with a clear understanding of what was most needed in the way of help from the Extension Service.

The happiest homes in Maryland in 1932, were the self-sustaining homes and farms. It was to the business of living within the farm income that home demonstration work made its greatest contribution of the year.

The organization for carrying on this work with the rural homes of Maryland, consisted of a State staff of six members, twenty-three home demonstration agents, and two colored home demonstration agents.

Specialists in dairying, poultry, horticulture and landscape gardening cooperated with projects in their respective fields.

Project demonstrators had an important place in helping to carry on Extension programs and making new contacts. Training schools were conducted by the agents or specialists for the purpose of training the demonstrators.

Women Demonstrators in Harford County Receiving Instruction in Repairing Rush-Bottom Chairs. Approximately 400 Women Carried on Work of This Nature.

Experience proves that more home-makers are reached through group meetings. Subject matter in the form of demonstrations is presented to the groups either by the agents or project demonstrators.

Eighteen counties held 332 training schools for project demonstrators. One thousand three hundred and one project demonstrators held 1,320 meetings with an attendance of 22,063. The influence of these leaders spread far beyond their own homes and communities.

Community Activities—Every county has its organizations of Granges, Farm Bureaus, and community organizations which plan their programs around community needs. The home demonstration agents cooperate with these organizations in all community work. In most counties the agents assume responsibility for the recreational part of the program.

Projects—The counties were divided on project work last year—some carried foods and nutrition and others carried clothing. Fifteen counties were interested in the Family Flower Garden project. This project has been carried entirely by project demonstrators. Five counties held one- or two-day flower shows. Three counties had county flower tours which visited the best flower gardens and landscaped homes in the counties. The flower garden project is supervised by the Landscape Gardening Specialists, the two district agents and home demonstration agents.

Achievement Days—Forty-four achievement days were held in 18 counties. In addition to achievement days, counties held from two to four county or district meetings. At these meetings either the agent or specialist gave a demonstration relating to the project. Demonstrations were in chicken canning, culling, food scoring for market use, children's clothing, etc.

Rural Women's Short Course—The Extension Service, in cooperation with the University, sponsors the annual Rural Women's Short Course which is held the third week in June. Over 700 women representing all counties in the State, attended the Course in 1932. The program, through its lectures and demonstrations in home economics and cultural subjects, gives help and inspiration to home-makers of the State. It is

diversified to meet the needs of all women. County leaders attending this course return to their counties and through demonstrations, talks and personal contacts help other club members, as well as inspire them to attend the Short Course. This Course offers to all women an opportunity for help in adult education and also the inspiration that comes from spending a week on the campus of their State University.

Farm Women's Markets—For several years attempts have been made to establish exchanges, or other forms of markets at which farm women could sell home-grown and home-made products. During the past year, the farm women of Montgomery County, under the leadership of the County Council and the home demonstration agent, established a market at Bethesda. Although many problems have arisen, this venture has proved a source of substantial income to a large number of farm women. It has enabled them to obtain better prices and to dispose of products which they could not have sold readily through other channels. This movement has spread and in addition to two other farm women's markets in Montgomery County, steps have been taken to establish similar markets in several other counties.

Marketing Tour—A farm women's marketing tour for the purpose of observing produce terminal facilities in New York City and studying methods in grading and distributing produce was arranged cooperatively by the Extension Service and the Baltimore and Ohio Railroad. Forty-nine women, two home demonstration agents and four from the State office participated in this tour on May 8, 9, and 10.

News Letters and Publicity—All county home demonstration agents send news letters to club members and also to a mailing list of women who are not in Extension groups. These letters contain club news of importance, county Extension news, and some subject matter. There was a total of 2,036 news articles reported by counties for 1932.

Colored Home Demonstration Work—Two colored home demonstration agents are employed to work in two counties in Southern Maryland and two counties on the Eastern Shore. These workers reached 1,432 homes through women's and girl's club work.

CLOTHING

THE CLOTHING PHASE of Extension work gains in importance as the income decreases. When farm products and salaries were good, it was difficult to interest people in such economies as making clothes at home and making use of out-of-date garments. The past year has shown an increase in the number of families keeping a record of the cost of clothes, planning expenditures, making clothes at home and doing their own dry cleaning. There was an increase in the demand for information on how to economize on clothes. This was met in 1932 by a Clothes Economy Program emphasizing:

1. Wise buying based on:
   - *a.* An analysis of records of cost of clothes for 1931.
   - *b.* A study of wearing qualities in fabrics and ready-to-wear.
   - *c.* Plans made in advance for family wardrobe.
2. Care of clothes, including home dry cleaning, better methods of washing and storage.
3. Remodeling so as to utilize all good fabrics on hand and avoid waste.
4. Making clothes at home—methods that save time, insure better style and better wearing qualities.

As a result of the program, there was an 82% increase in the number of records of cost of clothing returned to the State office. There was a 31% decrease in the average amount of money spent per family. Reports on the project show that the 16 two-day coat making and remodeling schools held in nine counties resulted in 314 women receiving instruction in making 340 coats from new or old material. The amount saved within two months after the schools were held was estimated at approximately $2,000.

Popularity of the children's clothes project has continued for three years. During the past year 412 project demonstrators attended training meetings and assisted with the project. It was a means of reaching women who do not attend other meetings.

Demonstrations given to organized groups on the Clothes Economy Program resulted in the following report on adoption of practices:

Planning wardrobe before buying	1,865
Pattern selection or alteration	2,188
Making clothes for self	3,129
Making clothes for children	2,176
Total number made	10,521
Remodeling	2,767
Total number remodeled	10,380
Dry cleaning	1,692
Total number dry cleaned	8,345
Washing fine fabrics	1,814
Testing silks and rayon	893
Improving posture and grooming	1,368

Winners in the Style Dress Revue, held during Club Week at College Park. Left to right—Rachael Garner, Carroll County, first place in Tailored Wool Dress Class; Cleona Brinsfield, Dorchester County, first in Informal Party Dress Class; Ora Bussard, Washington, County, first in Silk and Rayon Semi-Tailored Class; and Mary Hardinger, Allegany County, first in Cotton School Dress Class.

Money Value Phases of Project—Home sewing has increased, due to the necessity of getting greater durability for the money available. While it is difficult to estimate the amount saved by increase in home sewing, it is significant that there is an increase in the demand for assistance in better methods of clothing construction.

Dressmakers attending the meetings and schools on clothing construction reported better satisfied customers and expressed an appreciation of time and energy-saving methods.

Dry cleaning at home with a non-explosive solvent resulted in substantial savings to the 1,692 families reporting the cleaning of 10 or more garments per family within the five months following the demonstrations.

Demonstrations on making scarfs and collar and cuff sets given at the Rural Women's Short Course resulted in the making of many of these accessories for members of the family, for gifts and for sale. Women who made them for sale reported a profit of $425.46.

Project demonstrators are making it possible to reach larger numbers. Two hundred and eighty-eight project demonstrators assisted with the work in 11 counties, giving 490 demonstrations in the Clothes Economy Project. Four hundred and twelve women attended training school meetings and assisted with the Children's Clothes Project.

The work for 1933 on "Mrs. Consumer and Her Buying Standards" is proving interesting to women who feel that they must make greater economies and adjustments in the management of clothing for the family.

FOODS AND NUTRITION

RESULTS OF THE WORK in food selection, preparation and preservation are gratifying. There was a more sobering, serious and personal interest in this phase of Extension work than has ever been shown before. More women are applying at home the principles taught. Because food money is scarce, more homemakers are especially careful as to how they spend it. They are more concerned about low cost diets and how to prepare well the foods that are cheaper in money value.

This year the homemakers made special effort to produce adequate gardens and to see that there was no waste. More well-planned food budgets were made, which resulted in the canning of more products for winter use than has been done for many years.

Surplus farm products were used to better advantage than ever before. Many women added much-needed cash to the family income by selling home-made products. A special campaign for increasing the use of surplus milk in rural homes was conducted.

A greater effort was made to cooperate closely with the various relief agencies of the State in helping care for the less fortunate.

Definite results of the year's work are as follows:

Table of Results for Adult Work

Number of counties reporting some phase of foods and nutrition work	22
Number of clubs and communities reached	344
Number enrolled	7,198
Number of others definitely reached by club members	1,340
Number of project demonstrators in these clubs	413
Number of meetings held in foods and nutrition	1,883
Number of homes assisted in planning yearly food budgets	1,371
Number of homes budgeting food expenditures for one year	269
Number of homes balancing family meals for one year	2,034
Number of homes improving economical meal planning	2,580
Number of homes improving home-packed lunches	1,263
Number of schools following recommendations for hot lunches at school	82
Number of children involved in above question	3,617
Number of improved practices adopted in food preparation for this year (including meat and substitutes, milk, vegetables, fruits, whole wheat, desserts, salads, sandwiches and baked products)	23,414
Number of improved practices in food preparation from the last year or two	53,775
Number of families improving their gardens by special efforts as a result of Extension teaching this year	1,187
Number of families keeping canning budget	671

Food Preservation

(Adult achievements in cooperation with Extension Work)

16 counties report	290,721 quarts fruits canned.
16 counties report	333,797 quarts vegetables canned.
14 counties report	29,369 quarts meats canned.
15 counties report	34,059 quarts pickles and relishes put up.
14 counties report	16,417 quarts jellies made.
14 counties report	92,313 quarts preserves, jams, marmalades and fruit butters.
7 counties report	8,176 quarts fruit juice.
8 counties report	1,380,935 pounds fruits and vegetables stored and dried, and meats cured.

Total canned products, quarts ---------- 804,852

Total dried, stored and cured products, pounds ---------- 1,380,935

Estimated money value saved by cooperation with Extension work in foods and nutrition for the year of 1932 is as follows:

2,640 planned yearly family food budgets at a saving of $10.00 per family budget ---------- $26,400.00

1,187 better planned gardens at a saving of $10.00 per garden on food bill for fresh products ---------- $11,870.00

804,852 quarts of canned products at a saving of five cents per quart and 1,380,935 pounds of stored, dried and cured products at a saving of two cents per pound ---------- $67,861.30

Home industries sold individually and at small markets just started (not including Bethesda Market nor Roadside markets) ---------- $1,256.06

Specific emergency relief saving in food for poor ---------- $2,640.00

Total for Foods and Nutriton ---------- $110,027.36

Outlook—The past year's work will be continued—that of feeding the family from the farm, and using to good advantage all surplus farm products. Careful spending of cash for staples which the farm does not produce will be stressed, as well as low-cost diets.

The material on low-cost diets and food budgets prepared by the Bureau of Home Economics of the U. S. Department of Agriculture has been indispensable in carrying out the food program.

GIRLS' 4-H CLUB WORK

THE 4,218 WHITE and 750 colored 4-H Club girls have found their club training an asset in these days of reduced income. The Clothing Specialist directed an economy

clothing program whereby the girls learned to use feed sacks for undergarments and household articles; to make over old garments into attractive, stylish school and sport outfits. Several hundred girls are learning to keep expense accounts and to budget their expenditures. Through wise buying and true economy their lessened incomes are being stretched to meet the necessities of daily living.

Bulletins prepared by the Nutrition Specialist are directing the foods and health habits of 4-H Club girls and their families. With careful planning the Maryland food supply is sufficient for farm families to have an adequate diet the year round. The girls canned 25,212 jars of fruits and vegetables to supplement the winter food supply in their homes. Maryland girls still maintain their high canning standards as evidenced by their showing in national contests. Canned products sent to the National Congress this year brought back more than $350 in prizes—more than ever before. Maryland canning placed first in the Five-Jar Meal Class and second in the Five-Jar Vegetable Class.

Club girls, through the room furnishing work as directed by the District Agents are helping to furnish their own rooms attractively with practically no outlay of money.

Local Leader Training Conferences and individual conferences were held for the benefit of the 300 adults and older girls who are leaders of 4-H Clubs in their home communities.

In times like the present, more than ever, there is a need to help young people find wholesome recreation without cost in their homes and communities. 4-H Club parties, in place of banquets; recreation nights, camps, local and county picnics and the State Club Week were planned and directed by the girls under the supervision of their adult leaders.

Older 4-H girls in checking up their records and accounts estimate 4-H Club work as a paying enterprise. One girl finds that Club work during the past eight years has brought her $2,640 through savings and earnings from 4-H Club projects. The average value of Club work as figured by girls who have been in Club work for four or more years is $350 per girl; 817 girls have records of four or more years in foods, clothing, gardening, room furnishing, poultry and livestock 4-H demonstrations.

The older girls of nine counties, who have passed Club enrollment age, are forming organizations for further study and demonstration work.

BOYS' 4-H CLUB WORK

INTEREST IN BOYS' 4-H Club work was fully maintained. There were 4,037 boys and girls enrolled, an increase of 38% in the clubs, and at the close of the year 3,379 members reported. This was 15% more than in the preceding year and 84% of all club members enrolled. The record of achievement was even better; 20% more projects were completed than were reported in 1931, which means that there was an increase of one-fifth in the number of live stock, crops and garden projects raised. Projects also increased in size. There were 34% more purebred dairy cattle to replace poorer stock, 45% more swine, 44% more poultry, 3% more corn, 10% more Irish potatoes, and 31% more gardens. Club members produced needed food and livestock with an earnestness never before observed in this State.

The figures given do not include results of projects carried by several hundred boys who have passed the club age of 21 years, but who are still attached to clubs, meeting with county agents, following better methods, and aiding younger members in their work. In ten counties the older boys are organized and have regular meetings. Six of these groups have well-planned programs for 1933. This is a very significant development in Extension Work.

Projects—Dairy calf clubs continued to lead the list. It is estimated that there are 19,300 registered dairy cattle in Maryland. Not less than 15% of these are, or have been, owned by 4-H club boys. The following table shows ten years of development in dairy club work:

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Members	121	284	383	370	381	480	675	715	740	792
Animals	165	370	500	518	598	855	961	1091	1154	1545

An increase of 20% in the number of members completing poultry projects is significant and the estimated value per

member of nearly $70 indicates that a considerable number of farm boys and girls were helped materially in a year when such help meant much to farm families. Records show 1,014 members of poultry clubs, owning 68,014 birds worth $35,127. Poultry products worth about the same amount bring the value of this project to more than $70,000.

The swine project had an increase of only 7% in completions, but there was an increase of 45% in number of swine raised. Some of the best breeding swine in the State is owned by club boys.

Potato club work made excellent progress, especially in Western counties. This project is making Garrett County a source of certified seed potatoes. In that county alone, 61 boys raised 10,600 bushels of certified seed potatoes worth $12,000. In all, 162 boys, an increase of 64% over last year, raised 16,781 bushels, valued at $14,812.

Montgomery County 4-H Club Boys, Listening to a Radio Program Sponsored by Fellow Club Members.

Tobacco Club work showed an increase in production, the crop being estimated at 115,750 pounds. Seven less boys completed the project in 1932 than in 1931. The boys averaged about $183 each on this project.

An increase of 64% in the number of boys who completed garden work indicates that a real effort was made to help the

family food situation. Records of the garden project show 433 members in 13 counties under white agents and 154 under colored agents. A total of 202 acres was worked in home gardens. The value of all boys' club garden work was estimated at $23,367, which is a little more than $31 per member. In one county, 141 members produced $6,000 worth of food on about 50 acres.

The following table shows completions of projects by white club members for the last three years:

	1930	1931	1932		1930	1931	1932
Dairy	719	723	792	Irish Potatoes	98	99	129
Poultry	515	566	677	Tobacco	126	125	129
Beef Cattle	31	16	20	Home Gardens	118	264	433
Swine	244	269	320	Market Gardens	90	160	96
Sheep	19	18	20	Others	69	94	193
Corn	44	41	55				

Inspirational and Educational Activities—While the 3,379 club members were producing nearly a quarter of a million dollars worth of agricultural products, better farm methods were not their only lessons. A wide range of group activities afforded them inspiration and opportunities for expression of youthful characteristics of citizenship. The following table indicates the scope and character of club affairs:

County Activities	Number	Attendance
Community and achievement days	24	11,161
Camps	8	426
Banquets	8	1,100
Dairy judging contests	12	------
Poultry judging contests	9	------
Swine judging contests	9	------
Team demonstration contests	7	------
Training meetings	70	1,093
County Council meetings (twelve)	36	------
State Activities		
Club weeks (short courses)	2	427
Fairs	2	21 counties
Poultry judging contests	1	11 counties
Dairy judging contests	2	17 counties
Tobacco judging contests	1	4 counties
Swine judging contests	1	5 counties
Team demonstration contests	1	2 counties
Club leaders' conferences	1	200

Outstanding Achievements—More counties participated in State dairy, swine, and poultry judging contests, even though out-of-state trips, prizes and awards were materially reduced this year. Exhibits at Timonium, Marlboro, and many county fairs were as large or larger than ever before.

The Maryland Bankers' Association, through Judge Frank I. Duncan, Chairman of the Agricultural Committee, financed trips and other enterprises.

William Chilcoat, Baltimore County, a member of the International Dairy Cattle Judging Team in 1931, was awarded the Baltimore and Ohio Scholarship of $100.

Negro Club Work—Under two Negro agents, 812 club members completed 833 projects, with an estimated value of $35,000. Practically all of this was food for hundreds of Negro families. The colored boys and girls also promoted a very successful clean-up campaign, held an educational camp of considerable merit, and exhibited the best quality products since the work started.

AGRONOMY

WORK DESIGNED to provide more home-grown feed for the extensive dairy, livestock and poultry interests of the State received major consideration during the year. In recent years, these interests have spent more than $8,000,000 annually for feed, a large part of which could be raised on home farms with profit.

A special effort was made to insure success in seeding alfalfa and thereby increase the percentage of that crop. Soil samples were taken from each field, tested for lime, phosphorus and potash requirement, and detailed recommendations supplied demonstrators. This work included 341 demonstrations and involved 3,505 acres. The following table shows the progress of alfalfa work during the last three years;

Years	Acreage	Tons of Hay
1930	20,000	26,000
1931	27,000	62,000
1932	30,000	57,000

Satisfactory progress has also been made in the production of annual legumes by those who cannot grow alfalfa and those who need an emergency hay crop. Following is the acreage and production of annual legumes, principally soybeans:

Years	Acreage	Tons of Hay
1930	28,000	24,000
1931	35,000	63,000
1932	46,000	64,000

Wheat Problems—Introduction and spread of better adapted varieties was continued, principally through seed certification and smut control work. Twenty-six fields and 14,780 bushels of grain were inspected, with the result that 1,700 bushels were passed for certification, 2,300 bushels were classed as listed seed, and 10,780 bushels were classed as good seed.

Oats—Low yields of oats in Maryland are due in large measure to use of varieties which are not adapted to conditions in the State. A carload of seed was obtained for demonstrations in Frederick and Montgomery Counties and 50 demonstrations were conducted. An increase of seven bushels to the acre was obtained.

Barley—More Tennessee Winter Barley for feed is part of the program. Forty-six demonstrations were conducted in 13 counties. Ten years ago the acreage of barley was 4,000. For the last three years, the acreage is as follows: 1930, 12,000 acres; 1931, 16,000 acres; 1932, 21,000 acres.

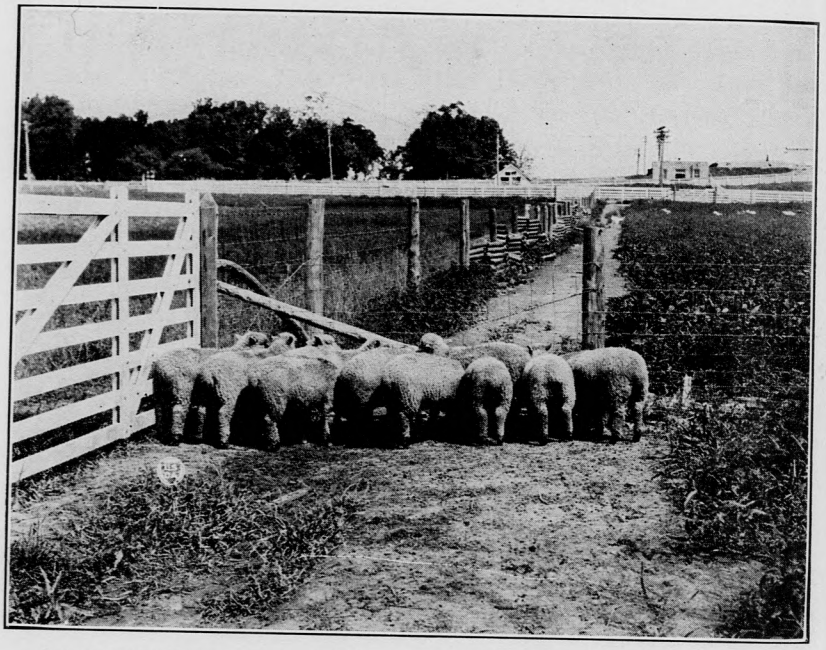
Other Seed Work—From a number of county fairs, 227 samples of clover seed, wheat and other seeds were obtained and tested at the State Seed Laboratory. Results of these tests, with explanations of their meaning, were sent to the farmers. A great many of the seeds were not fit to plant as found. Some were too low in germination, for which nothing could be done; most of the samples contained weed seeds, which could be cleaned out. The tests brought the importance of this home to the farmers.

ANIMAL HUSBANDRY

PROBLEMS ASSOCIATED WITH greater efficiency in production and marketing of livestock were foremost in the pro-

gram of Extension work in Animal Husbandry. Two factors were responsible for considerable derangement of the stockman's situation during the year; namely, lack of credit for normal operations and a price level so low as to discourage normal interest in the livestock farming business.

Sheep Production—An outstanding project in this phase of the industry centered around the purebred ram shows and sales. Five of these events were conducted in 1932, and 119 purebred rams were distributed among 96 sheep flocks in 18



Scenes Like This on Maryland Farms are Helping to Increase Incomes.

counties. It is significant that 81 of these flocks were not previously headed by purebred rams. A show was held in connection with each of these events to demonstrate the most suitable type of rams for use in production of market lambs.

The Maryland ram shows and sales are sponsored jointly by the Extension Service and the Maryland Stockmen's Association. The project has been conducted for seven years and results are evident in the marked improvement of Maryland's commercial lamb crop.

Other work pertaining to sheep included breeding, feeding, management, docking and castrating lambs, shearing, trimming for show and sale, parasite control, and a wide range of information on marketing topics.

Swine—Eleven litters were entered in the Maryland Litter Contest, which was a smaller number than in former years, due to conditions adversely affecting the hog business. Four litters made the required weight of 1,500 pounds, or more, at 150 days of age. The winning litter was produced by John R. Iager & Sons, Howard County. It consisted of 12 pigs, which weighed 2,796 pounds at 150 days. This is the heaviest weight ever made by a litter in any Maryland contest and is believed to compare well with the best record made during the last few years by any litter in the United States. The Maryland Stockmen's Association and the Wm. Schluderberg—T. J. Kurdle Company cooperate in sponsoring the contest.

Greater attention was given to home utilization of farm-cured pork than in recent years and, also, to methods for controlling internal parasites in swine.

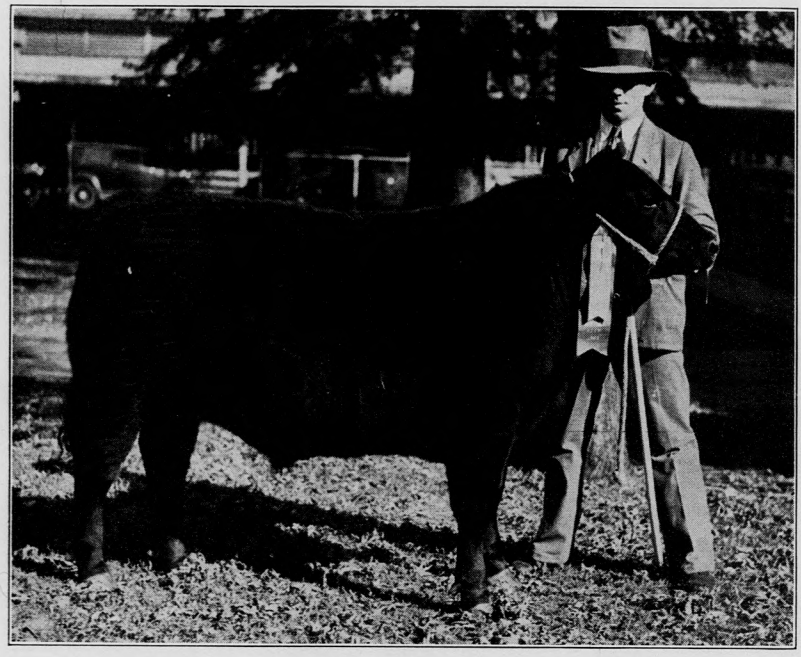
Beef Cattle—Interest in and establishment of beef cow herds continues to be the outstanding development in this field. No less than 20 new beef cow herds were started during the year and there are approximately 75 such herds in Maryland at present. Five years ago there were probably less than one fifth of that number. A few dairymen are beginning to use beef bulls for production of superior veal calves, or with a view to transforming their herds into herds suitable for dual purpose, or straight beef production.

As a means of further assisting in distribution of purebred beef breeding cattle, the Second Annual Sale of Purebred Aberdeen-Angus breeding cattle was held in connection with the Baltimore Livestock Show. Twenty-one head of good beef bulls and heifers were disposed of by the Maryland farmers.

Interest was revived somewhat in 4-H Beef Club work. Eleven calves, owned by nine members, were fitted and shown by boys at the Baltimore Show.

Livestock Marketing—The most significant development in the livestock marketing field was organization of the Eastern Cooperative Livestock Producers' Association, which opened

for business at the Baltimore Union Stock Yards on August 1, 1932. The Extension Service, in cooperation with other agencies, devoted a great deal of effort to formulating plans and other work incident to launching the organization. Its purpose is to render a complete livestock marketing service and during the first five months of its operation, its business grew and developed in a way that gives every indication of success and usefulness.



Grand Champion Steer at the Baltimore Livestock Show. This Fine Animal Was Produced and Shown by Fox Hill Farms, Fallston, Md.

The Baltimore Livestock Show is an outstanding demonstration of development in the industry each year. The Extension Service has had a large part in the development of this project from its beginning. In 1932, the show was almost twice as large from the standpoint of entries as any of the former shows. The highest priced grand champion carload of fat steers marketed during 1932 was the winning load at the Baltimore Livestock Show. One of the best demonstrations that Maryland can produce cattle as good as are produced

anywhere was the exhibition of a steer from Harford County, fitted and shown by Dean Bedford, of Fallston, Maryland. This steer was produced entirely on Maryland-grown feeds and was declared the grand champion of the show, in competition with good steers from 17 states.

HORTICULTURE

ECONOMY IN PRODUCTION was a basic consideration in the work of the year, and there were many requests for help in planning economical orchard programs. The projects carried on were in accordance with the five-year plan formulated in 1931, with such changes as were warranted by general conditions in the fruit industry. General orchard practices recommended included better pruning methods, proper fertilization, soil improvement by mulching, use of cover crops and increasing the organic matter of soils, the thinning of fruit, generally improved quality of the crop, and careful grading and packing.

Yields of fruit were close to the general average. Prices were fair to good, the market was rather slow, but steady, and good fruit sold well. Profits or losses varied with the type of market, grade of fruit produced, and season of marketing.

Pruning—Demonstrations of recommended pruning practices on tree, cane and bush fruits were held in 42 orchards. Several hundred growers were thereby impressed with the fact that proper pruning makes for better tree framework, more efficient spraying and improved development of fruit buds for later crop. Growers found also that trees could be adjusted to soil moisture conditions, especially since the year was dry and trees were still showing damage from the 1930-31 drought.

Fertilizer and Organic Matter—General orchard management demonstrations, which included fertilization, were conducted in 12 orchards. Results were satisfactory, in spite of off-year bearing and dry weather. Soil management and improvement were included in these demonstrations and also were impressed upon many growers by advisory visits and by letters and publicity.

Members of the Maryland State Horticultural Society Meeting at the Orchard of C. E. Bryan, Near Havre de Grace.

Strawberry Time on the Eastern Shore. This Crop has Proved Profitable to Many Growers.

Thinning Fruit—Growers realize that thinning is becoming an essential orchard operation and more of them are adopting thinning methods each year. Eight demonstrations of most approved methods of thinning were conducted in 1932. A short peach crop in other states, the weakened condition of many drought-injured trees, and the fact that market buying power was low, were strong influences with growers to thin their fruit.

Miscellaneous Activities—Considerable time was devoted to work with a committee appointed by the Eastern Apple Growers' Council in attempting to lift restrictions on apple shipments to Argentina. Through efforts of the committee, shipments to Argentina were nearly doubled in 1932 compared with the preceding year.

A drive was made to control San Jose scale on apples, due to embargo of scale-infested fruit in French markets. Great improvement in production and grading resulted in very few rejected shipments destined for France.

Assistance was given in a few instances where spray residue was interfering with fruit marketing.

Other activities included cooperation with the Spray Service, judging fruit shows, planning for summer and winter meetings of the State Horticultural Society, assisting growers in better packing and grading, and editing the monthly *News-Letter* of the State Society.

ORNAMENTAL GARDENING

INTEREST IN ALL phases of ornamental gardening continued to grow. Requests for landscape demonstrations increased 21 per cent over the preceding year; there was a substantial increase in demand for information on all phases of ornamental horticulture; the mailing list for the monthly ornamental Gardening Notes increased to more than 2,000 names.

Economic Value—Property improvement has a distinct economic value in terms of dollars, in addition to the greater joy of living to be derived from more pleasant surroundings. Unfortunately, it is not possible to determine and express definitely the money value resulting from a year's extension activities, except in generalities. Certain facts, however, are

known: Real estate sales experience shows that each dollar spent intelligently in landscaping grounds adds at least two dollars to the value of the property. Efforts at home-ground improvement by an individual stimulate neighbors to do likewise, thereby raising the value of the entire community. Such improvement makes property easier to sell. Proper planning provides for more efficient use and the attractive farmstead has more ready sale for certain products and can command higher prices than a decadent looking place.

In the case of parks, playgrounds, and other community developments, the benefits are multiplied.

Although it constitutes only a minor phase of the value of the work, the market provided for nursery products and various construction materials is about the only dollar value available. It is possible to figure roughly the value of plant materials specified in the various plans supplied, from which the nurseries and labor connected therewith receive benefit. The retail value of such material specified during the year amounts to approximately $20,000. Labor and other construction should amount to $15,000, or more.

Landscape Plans and Advice—Requests for assistance in carrying out various types of landscape improvement projects numbered 169. They came from 22 of the 23 counties of the State and covered practically all phases of the work. In order to give adequate assistance, it was necessary to prepare definite plans for 96 of the 169 requests. The others were taken care of through advisory visits.

Among the requests were those for 31 school properties, 79 farmsteads or home grounds, 7 public parks, 1 cooperative market, 1 tourist camp, and 23 others of miscellaneous character. It was not possible to keep abreast of the numerous demands and 12 requests requiring formulation of plans are still on file.

Flower Growing Project—This project was active in 15 counties; although interest in a few counties dwindled, increased enrollments were recorded in others. Project demonstrators completed the three years' course as originally outlined, but have yet to present the third year's work to their respective clubs during 1933.

Incomplete reports from home demonstration agents indicate an enrollment of 1,725 members. In addition, 455 others were helped with their garden problems. Detailed reports from some of the counties show that those engaged in the project are not only learning new facts about gardening, but are actually applying them to their garden operations.

Some attention was given to flower-growing in counties not definitely following the regular project. This was largely in the form of group meetings for consideration of growers' problems.

Garden Tours—Nine garden tours were organized and conducted. In some cases, the gardens of members were visited and in others out-of-state gardens of note were visited.

Flower Shows—A considerable increase was noted in the number of flower shows. They ranged from displays at regular meetings to community exhibits and county-wide undertakings. Most of the 14 shows were a direct outgrowth of the flower growing project.

Junior Work—Four hundred and sixty-four girls were enrolled in the flower project and 414 completed the work. Thirty-one clubs with a total membership of 107 followed the vegetable growing project and 67 completed the work.

Miscellaneous Activities—In addition to the monthly Ornamental Gardening Notes, 17 press releases were sent out and one circular and three special reports were issued. Seventy-two public addresses were made, with a total attendance of 3,849, and seven talks were broadcast over the radio. A judging school was held in cooperation with the Maryland Federation of Garden Clubs and eight lectures on ornamental horticulture were given at the Rural Women's Short Course. One educational exhibit was staged and plans for two others were formulated. Assistance was given in the conduct of six garden contests.

DAIRY HUSBANDRY

MAJOR PROJECTS IN dairy husbandry were designed primarily to assist farmers in reducing their costs of production and maintaining as high level of prices for their products

as lowered incomes and decreased consumption justified. From the standpoint of the first objective, great emphasis was given to the importance of growing legume hay and silage, providing as much home-grown grain as conditions would permit, and getting rid of the least profitable, or unprofitable cows. More attention was devoted to encouraging use of dairy products in farm homes than in recent years.

Comparisons of prices of milk in the three markets which receive the principal part of the milk produced by Maryland dairymen reflect most favorably upon the value and effectiveness of the cooperative organizations serving milk producers of this State. The three organizations, the Maryland State Dairymen's Association, the Maryland-Virginia Milk Producers' Association, and the Inter-State Milk Producers' Association, have proved of even greater value than in more normal times, both in maintenance of prices and in other services rendered to members.

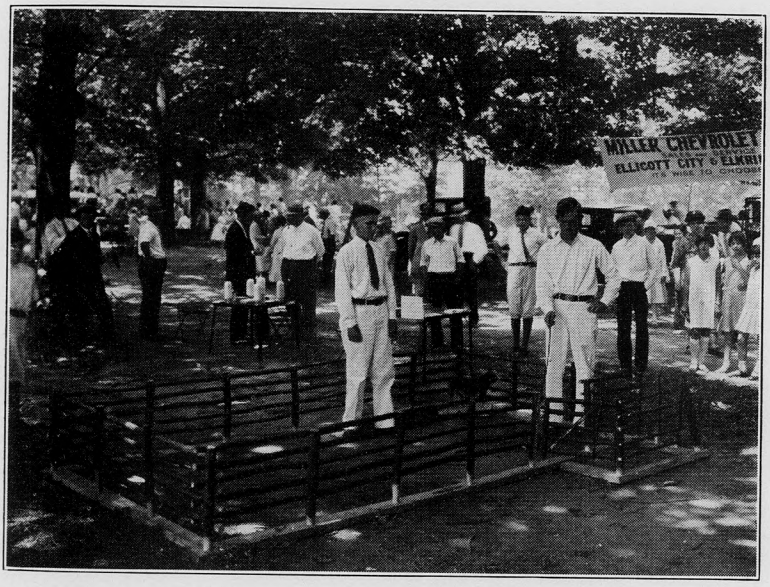
Herd Improvement Associations—The number of cows on test remained approximately the same as the preceding year, although there was a small decrease in the number of members in herd improvement associations. Average production of all cows was 7,552 pounds of milk and 295 pounds of butterfat, which is just about the same as in 1931. Certificates of merit were issued to 87 men whose herds averaged more than 300 pounds of butterfat for the year. Records show that 622 cows were culled from herds in the association work.

Purebred Sires—County agents and specialists assisted in placing 144 purebred dairy bulls during the year. Four breeding schools were held, using the herediscope to illustrate the transmission of characteristics.

Seven purebred bulls from the U. S. Bureau of Animal Industry Experiment Farm, at Beltsville, Maryland, were placed in Garrett County in 1930 in a cooperative breeding project. Sixty-three heifers have been retained by cooperators. The bulls have been exchanged, bull pens built, and all participating in the project are greatly pleased with the benefits they have received.

4-H Calf Club Work—Greater interest in judging was evident this year than for a number of years. As a result, de-

mands upon county agents and specialists for assistance in selecting calves, organizing clubs, training judging teams, and work of that nature was especially heavy. A larger number of teams competed in the State judging contest than ever before; club members exhibited calves at all county fairs and at all breeders' field days. One hundred club calves were shown at the Timonium State Fair, which is almost as many as have been shown in any previous year. That there is more to club work than showing and judging is evident from the fact that



Model Bull Pen Built By Maryland 4-H Club Members and Exhibited at the Howard County Farm Bureau Picnic.

among the best breeders of purebred dairy cattle in the State are a number of former calf club boys.

Other Activities—During the year two county boards of health were reorganized and adopted regulations relative to production and sale of milk in their respective counties. Assistance was given in formulating dairy codes for these counties.

Although construction work on dairy farms was somewhat retarded by economic conditions, there was some demand for

assistance in erection of barns and silos, or the remodeling of buildings to comply with regulations incident to marketing milk.

A state-wide survey of the quantity of milk and dairy products used in farm homes was made by the specialist in cooperation with those engaged in home demonstration work.

ADVANCED REGISTRY WORK

BREEDERS OF PUREBRED dairy cattle found it necessary to economize because of financial conditions, but their interest in improving their herds and promoting the principal breeds of dairy cattle continued unabated. Although there was some change in the numbers of cows entered in the different types of tests and in the number of breeders participating in the various forms of testing, there was an actual increase in the number of cows on test and the number of breeders doing some form of testing.

Advanced Registry Testing—In view of the fact that several breeders entered their herds in the Herd Improvement Test, this form of testing held up very well. There was a decrease of only 8.9% in the number of cows on test and 13% decrease in the number of breeders doing this form of testing.

Seven-day testing, which was the most popular form of Advanced Registry work fifteen years ago, has passed out of the picture entirely. At the Annual Convention of the Holstein-Friesian Association of America, June, 1932, a resolution was passed to the effect that after December 31, 1932, the seven-day test would be discontinued. In line with this resolution and in view of the fact that the seven-day test had outgrown its usefulness, not a seven-day test was run in Maryland in 1932.

Herd Improvement Testing—A division for Herd Improvement Testing is now operated in all of the major breeds. The entire herd is entered on test, with very few exceptions. A bi-monthly test is provided for Jerseys and Holsteins, and all testing for Guernseys and Ayrshires is conducted monthly. There is an increasing tendency among all breeders toward a year record of the whole herd, because it not only provides

a better basis for herd improvement, but offers an opportunity for proving the herd bull. It is more economical. This form of testing has increased steadily. At the close of 1931 there were ten herds with a total of 277 cows on Herd Test; at the close of 1932, there were 17 herds, with a total of 421 cows.

4-H Cattle Judging—Assistance was given in coaching judging teams for the annual 4-H Judging Contest at the Timonium Fair. Teams from seventeen counties participated in this event in 1932. Funds were not available for training and sending a Maryland team to the National Contest, which was held at Waterloo, Iowa. The contest this year was held in connection with the Dairy Cattle Congress, due to the fact that the National Dairy Show at St. Louis was discontinued for the year.

Breed Promotion—Excellent progress was made in all the four principal breeds. Ayshires gradually forged ahead and wonderful cooperation was received from the Ayrshire Breeders' Association of America in all activities. Promotion work for the Jersey breed was better financed than in recent years and, under the inspiration of a new set of officers, the State Association made fine progress. Maryland Holstein breeders were the largest buyers of high-class cattle in the National Sales during the year and, as a result, many excellent breeding animals were added to the herds. Guernsey Field Day Sales were very gratifying and, with the cooperation of the State and County Clubs, more Guernsey bulls were placed than of any other breed.

Purebred Sire Work—Special attention was given to getting "bull buyers" and "bull sellers" together. Only about one-half of Maryland dairy herds are headed by purebred sires, and many good breeders now have calves of the right sort to sell. In some sections rather intensive surveys were made to determine the need for purebred sires and specific assistance was given in supplying these needs in a satisfactory manner. Results of efforts to aid dairy farmers in locating and selecting suitable bulls show that it is a valuable piece of work and should be continued and extended.

MARKETING

INTEREST IN IMPROVED methods of marketing has increased more rapidly than usual, due in large measure to the general low level of prices for farm commodities and the generally unsettled economic conditions. Definite progress was made in marketing cooperatively some of the farm products in which producers heretofore have not shown sufficient interest to assure the success of cooperative efforts.

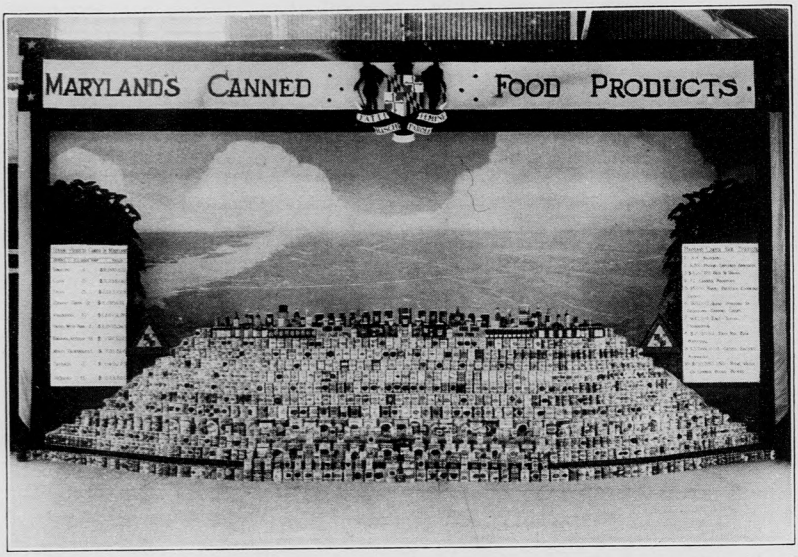


Exhibit by the University of Maryland Extension Service at the Maryland State Fair, Timonium. It Was Featured by a Display of More Than 900 Canned Products Put Up in This State and a Large Oil Painting of Maryland.

Cooperative Marketing—In cooperation with the Federal Farm Board and the Maryland Farm Bureau Federation, the Extension Service assisted in the organization of the Eastern Live Stock Cooperative Marketing Association, which is affiliated with the National Live Stock Cooperative Association. When this organization began operations on the Baltimore market on August 1, 1932, Maryland producers were afforded facilities for selling their live stock cooperatively. During the first five months, the Association handled 2,038 head of live stock through eleven local units.

Substantial progress was made in development of a plan whereby Maryland poultrymen may market their eggs cooperatively through existing distributing agencies in Washington and Baltimore. One unit in Prince George's County has been in operation for nine months and has sold 75,000 dozens of eggs on the Washington market at an average increase in net return to producers of four cents a dozen. Similar efforts in Caroline County have increased the net return to producers in that section at least two cents a dozen on 100,000 dozens.

Eggs from these units are being marketed as a Maryland quality product and there is constant demand for eggs of this kind. Preliminary steps have been taken toward development of local units in Queen Anne's, Talbot, Baltimore, Howard, Harford, and Anne Arundel Counties.

The three cooperative marketing organizations handling milk for Maryland dairymen—the Maryland State Dairymen's Association, Maryland and Virginia Milk Producers' Association, and Inter-State Milk Producers' Association—continued to function in a satisfactory manner and maintained the price of milk considerably above the level prevailing throughout the country. These Associations sold 58,595,588 gallons of milk during the year.

The Maryland Tobacco Growers' Association showed an increase of 5% over the volume of product handled last year.

Through the National Grain Growers' Association 76,324 bushels of grain were sold cooperatively.

The State Wool Pool, conducted in cooperation with the Maryland Farm Bureau, sold 35,394 pounds of wool cooperatively through the National Wool Growers' Association.

Grading and Standardization—Producers of a wide variety of farm commodities were assisted in improving their products by use of standardization, grading and certification.

Apples—Growers of apples have experienced difficulty in disposing of their crop, particularly in complying with the restrictions placed against importations by various foreign countries. More than 80% of Maryland's commercial apple crop was exported each of the last two years. Growers were assisted in grading and packing and in certification of 424,-

320 bushels of apples in 1932. In connection with this activity, 364 actual grading demonstrations were given at packing houses of 95% of the principal commercial apple growers.

Peaches—Assistance was given in grading and packing 9,108 bushels of peaches and 31 demonstrations were given.

Strawberries—In cooperation with growers and brokers in one section of the State, aid was given in grading and certification of 65,900 crates of strawberries. By comparison of prices paid for berries at this point with prices paid at other points on the same day, it is estimated that this service resulted in increased price of 10 cents per crate to growers.

Potatoes—Early potato growers were assisted in grading and certification of 156,792 bushels of potatoes. In addition, 57,408 bushels of seed potatoes were certified and, when sold, brought 25 to 30 cents more per bushel than uncertified stock.

Tomatoes for Canning— In the sale of tomatoes for canning 2,463 demonstrations were given to aid growers in their picking practices. This involved 196,694 baskets. In addition, growers in Queen Anne's County received a net increase of approximately $1,400 through shipment of part of their crop to a factory in Baltimore, where they were paid for on the basis of grade.

Maple Products—In cooperation with the Garrett County Maple Products Association, 3,380 gallons of maple syrup were graded and certified. It resulted in increased demand for the product, which has reached into a territory formerly dependent entirely upon New England for its maple products.

Other Products—Included in the grading and certification work were 18,550 bushels of cucumbers, 51,000 flats of greenwrapped tomatoes, 1,700 bushels of seed grain, and 900 pounds of tomato seed.

Local Markets—Assistance was given in the establishment and maintenance of three farm women's markets. Total sales at one of these markets on two days per week on which the market was open ranged from $400 to $1,200 a day.

Market Reporting—A daily market news report was issued during the shipping season on strawberries, Irish potatoes, and cucumbers. A report was issued daily on fruits, vegetables,

butter, eggs, poultry, and live stock on the Baltimore market, which report was published in the Baltimore daily press. These reports were furnished in cooperation with the Bureau of Agricultural Economics, U. S. Department of Agriculture, and gave authentic and unbiased information regarding receipts and price ranges of various commodities.

POULTRY HUSBANDRY

POULTRY WORK included a wide range of activities, but was focused principally upon four major problems affecting the industry. Most lines of work were a continuation of projects that have been carried on during the last few years.

Efforts to Reduce Mortality of Stock—For the sixth consecutive year this project has expanded and shown excellent results. In 1932, 148 hatcheries and breeders and an estimated number of 1,750 farms were reached with this work. Aproximately 3,500,000 chicks were produced by the hatcheries and farms participating. Records for the entire period that the work has been in progress show that mortality on farms where all eight of the sanitary practices recommended are followed was 9%, compared with 25.6% for farms on which three or less of the practices were followed. Each year shows further reduction in the rate of mortality of chicks, as the recommended practices are more generally adopted and more faithfully carried out.

Increase in Average Egg Production—This project is designed to assist owners of farm flocks in eliminating some of the poor management practices which are responsible for low average egg production. By means of special record calendars, they are aided in keeping complete records of their flocks and are given seasonal suggestions on poultry management. An average of 166 farms, on which 49,479 birds were owned, sent in complete records each month.

There is an evident trend toward higher average production per bird and also a greater proportion of records from smaller, or farm flocks. This indicates a trend toward more efficient management practices in farm flocks, which is the principal aim of this project.

A summary of cost records on 40 Maryland flocks, submitted by cooperators in the Farm Egg Record Project during the last year, showed an average labor income per bird of $1.66.

Organization and Marketing—Greater progress in the development of marketing eggs cooperatively was made during the year than at any time in past years. Three new organizations were formed and operated with substantial benefit to their members. The Anne Arundel County Poultry Association has 14 members; the Frederick County Poultry Associa-

A Fine Flock of Maryland Turkeys. This Industry Has Come to the Front Rapidly in Recent Years.

tion has 20 members; and the Maryland Egg Producers' Cooperative has about 15 members. The latter organization started marketing operations about May 1, 1932, and marketed more than $12,000 worth of eggs under certified State-Federal grades up to December 20. In this period, its members received more than $500 net for their eggs above the amount they would have received under their old marketing arrangement.

Assistance was given to other poultry organizations, all of which made fine progress during the year. In addition to the Maryland State Poultry Association and the Maryland Turkey Growers' Association, there are eight county poultry associations and two local fanciers' associations. Cooperation was given also to regional and national organizations, particularly the International Turkey Association, North Eastern Poultry Producers' Council and National Poultry Council.

Turkey Production—Major activities for the benefit of the turkey industry were along lines similar to those carried on with chicken producers. Much attention was devoted to reducing the losses due to diseases and parasites by means of

Members of 4-H Clubs Produced More Than $100,000 Worth of Poultry and Poultry Products Last Year.

more sanitary practices in management of flocks. The first Maryland All-Turkey Show at Chestertown in January, 1932, was a feature of the turkey work for the year.

Poultry 4-H Club Work—Poultry club work was carried on in 20 counties, with 1,158 members enrolled. Adult phases of poultry demonstration work are being carried by 4-H club members to an increasing extent. Both the "Grow Healthy Chicks" and calendar record projects are carried by a number of club boys and girls.

County and State judging contests were features of the work with 4-H clubs. Eight county judging contests were held, with 97 contestants, one district contest, with two county teams, and one State judging contest, with 11 county teams comprising 33 contestants.

Breed Improvement—The principal activity in this line consisted of a cooperative project in which the following agencies participated: The Maryland State Poultry Association, Maryland State Department of Markets, Livestock Sanitary Laboratory, and the Poultry Department and Extension Service of the University. This project involved the inspection of flocks and banding of birds suitable for breeding and testing for Pullorum disease. Each bird that meets the stringent requirements for certification is banded with a Maryland State Poultry Association certified, sealed and numbered leg band, stamped with the year of certification. Demand for this work was more than three times as great in the last year as in any former year. The following summary conveys an impression of its extent: Approximate number of birds represented, 94,780; of this number 75,577 were blood tested; of this number 39,898 were certified and 13,676 were reactors; percentage of reactors, 18.1.

ENTOMOLOGY

WORK IN ENTOMOLOGY comprises three main lines of activities: First, that which has to do with control of native insects, some of which are present in sufficient numbers in some years to constitute a menace to crops; second, the work done under the State Horticultural Department, which relates principally to regulatory measures, particularly as concerns the nursery industry; and, third, work done under the Emergency Insect Control Fund for suppression of newly introduced pests, particularly the Japanese beetle, the European corn borer, the Argentine ant, and the potato tuber moth.

Control of Native Pests—*Orchard Insects*—A great deal of work was done on the control of codling moth and plum curculio, in addition to minor work on terrapin scale, scurfy scale, West Indian peach scale, and apple leafhoppers. Early each

year a spray calendar is worked out in cooperation with the states of Virginia, West Virginia and Pennsylvania. Supplementary cards giving detailed information as to the exact time sprays should be applied were sent to about 1,800 growers. By strict adherence to the spray schedule, codling moth injury was reduced in the majority of orchards. Danger from arsenical residue was obviated also, because arsenical applications were restricted so that there was ample time for natural weathering to reduce the residue.

Truck Crop Pests—Spraying demonstrations on white potatoes showed a high percentage of increase in the crop, due principally to control of the potato flea beetle. General adoption of the spraying and dusting program for control of the Mexican bean beetle reduced the loss from this insect very materially. The pea aphis did serious damage to the canning pea crop in Garrett County, and demonstrations showed the possibility of controlling the pest by use of a soap and nicotine spray.

Field Crop Pests—Hessian fly was more abundant on wheat than in recent seasons. Efforts to control the pest by advice to farmers with regard to safe planting dates were successful in cases where the advice was followed. Results of the season's work on corn earworm were given considerable publicity through the Tri-State Packers' Association. Certain farm practices have been developed which tend to reduce injury by this pest.

Mosquito Work—A mosquito survey, in cooperation with the Bureau of Entomology, was conducted at various points in tidewater Maryland. Mechanical traps were used to sample the fauna so as to determine the number of species and their seasonal distribution. Twenty-eight species of mosquitoes were found during the period the traps were operated. This survey, when completed, will furnish a sound basis for recommendations with regard to mosquito control.

Miscellaneous Insect Pests—Major injury to various crops was caused by the following insects and a certain amount of effort was devoted to their control: Striped tree cricket, to raspberries; Harlequin cabbage bug, to cabbage and related crops; corn flea beetle, necessitating replanting of corn in two counties; tortoise beetles, to sweet potatoes.

Other pests that deserve mention are the box elder bug, which seems to be increasing constantly; spider mites injuring various ornamental and shade trees; two pests of animals, the southern dog tick and the tropical rat mite, together with the common dog tick, which appears to be responsible for presence of Rocky Mountain Spotted Fever.

State Horticultural Department—*Nursery Inspection*—The number of nurseries is increasing constantly and owing to the various regulatory orders of the Federal Government and other states, greenhouse and special certifications have added to the total inspections. Two hundred and forty-two nurseries were inspected during the year.

Apiculture Work—Inspection of apiaries and dissemination of information in regard to beekeeping comprised the main lines of effort in this field. An attempt was made to determine the distribution of American foulbrood. Six hundred and twenty-one colonies were inspected and 5.3% showed disease. The diseased colonies were destroyed, as the safest method of meeting the situation. Considerable attention was given to the use of bees in orchard pollination and problems connected with utilizing them efficiently. A survey of conditions prevailing in the marketing of honey furnished information upon which future work in that line may be based.

Emergency Insect Control—*Japanese Beetle*—The program of work for control of this insect may be divided into four major activities: Scouting, control operations, quarantine, information and educational activities. Results indicate that this type of work gives promise of holding the beetles in check and preventing spread. Finds have been made in several new localities in the last two years, but no information available indicates that there has been spread from any of the control areas in Maryland. This work has resulted in tremendous saving to all horticultural interests of the State, both within and outside of the regulated area. It is carried on cooperatively with the Bureau of Plant Quarantine of the U. S. Department of Agriculture.

Maryland authorities have insisted at all times that only infested territories be regulated, and that free territory be protected to the utmost. This policy has been set forth vigor-

ously at all hearings and conferences with the Federal administration. The past year the Maryland authorities succeeded in keeping 343,700 acres of land, or a territory larger than Montgomery County, from being placed under regulations.

European Corn Borer—This insect was found by Federal scouts in five localities in Worcester County and one in Wicomico County. This apparently is the two-brooded strain and probably originated in shipment of material from the New York area during the shortage of farm produce in 1930.

Argentine Ant—Demonstrations on the poison bait method of control have shown the possibility of greatly reducing this pest in the Baltimore greenhouses that are infested.

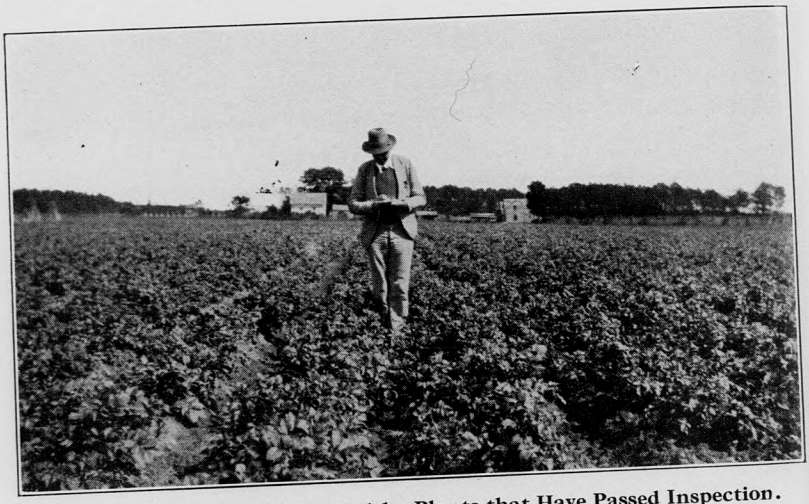
Potato Tuber Moth—Studies of methods for control of the potato tuber moth have been continued and also the relation of meteorological conditions to presence of this pest. This sub-tropical insect appears to be able to maintain itself from year to year, even though damage is apparent only in years when there is a deficiency of rainfall in the early season, coupled with high temperature. Methods of cultivation can be counted upon to reduce injury to a negligible factor, even in years of heavy prevalence of the moth. These methods have been adopted generally by growers of certified seed potatoes, making it possible for them to meet the requirements of the Seed Certification Board.

PLANT PATHOLOGY

MARYLAND FARMERS are assisted in reducing losses in yield and quality of their crops by seed selection, seed treatment, soil disinfection, spraying, dusting, crop rotation, maintenance of seed stocks of superior quality, and other methods for control of plant diseases. By examining fields and orchards in which plant diseases are not controlled and comparing them with those in which plant disease control measures are practiced, it is possible to estimate approximately the value of disease control work in the State. Based upon the farm value of crops reported by the Bureau of Agricultural Economics, it is estimated that more than $2,000,000 is saved annually by the use of disease control methods.

Barley Diseases—Six demonstrations on control of covered smut were conducted in 1932. In fields grown from untreated seed, the disease varied from 2% to 20%; there was no disease, or a mere trace, in fields grown from seed treated with formaldehyde.

Orchard Diseases—Annual losses from fruit diseases in Maryland amount to 10% to 15% of the crop. To reduce orchard diseases, a spray service is maintained whereby orchardists are informed the proper time to spray for best results, material to use, and most approved orchard practices. The



A Potato Field With Good, Healthy Plants that Have Passed Inspection.

development of apple scab fungus and other disease-producing organisms in orchards are studied and information is sent out at the proper time on spray service cards from offices of county agents.

Sweet Potato Diseases—Losses from sweet potato diseases averaged from 15% to 20% of the crop, most severe losses being caused by storage rots, black rot and stem rot. As a result of demonstrations and meetings during the last few years, treatment of seed with a solution of corrosive sublimate just prior to bedding has been adopted by most growers with resultant decrease in prevalence of black rot and scurf. Control of stem rot by treatment of plants with organic mercury

compounds just prior to setting them in the fields was the basis of seven demonstrations. Yields were increased and stem rot was reduced by the treatment.

A disease known as pock caused a loss of about 5% of the crop this year. An attempt is being made to work out a practical method for control of the disease in Maryland.

Progress is being made in control of sweet potato diseases by use of certified seed. A new variety, the Maryland Golden Sweet, which is proving very popular on the market on account of its superior qualities, is being introduced throughout the

At Least Half the Plants in this Potato Field Showed Disease and it did not Pass Inspection.

State. Great care is being exercised to have stocks of this new variety certified, so that it can be kept free from seed-borne diseases.

White Potato Diseases—Control of potato diseases has been a major activity for a number of years, due to the fact that the potato industry ranks fourth in farm value among the agricultural crops of the State, and to the fact that use of high quality seed is necessary for profitable potato production. It

has been demonstrated that certified seed grown in Maryland is just as good or better than certified seed grown in other states. The total quantity of seed eligible for certification this year was 57,408 bushels. Seed certification is valuable to farmers of the State in three ways: It increases the price they are able to get for their potatoes; it makes possible the sale of potatoes for which there would be no market otherwise; and, it reduces production costs by teaching farmers how to select the best seed, how to spray efficiently, and other profitable practices.

A study of the production and maintenance of potato seed stocks is being made. Results indicate that although seed stocks of some varieties are more difficult to maintain than others, by tuber indexing, planting seed plots in tuber units, and careful roguing, disease-free stocks can be profitably maintained, even of varieties susceptible to virus diseases, such as the McCormick.

Other Crops—Examples of practices which are being demonstrated and recommended are: Use of Western grown bean seed for control of anthracnose and blight; use of yellows-resistant varieties of cabbage for control of cabbage yellows; careful selection of seed corn for control of root, stalk and ear rots; spraying or dusting of cantaloupes and cucumbers for control of blight, anthracnose and other diseases; use of wilt-resistant varieties of tomatoes for control of tomato wilt; and dusting of wheat with copper carbonate dust for control of covered smut.

Boys' Club Work—Five certified seed potato clubs and one commercial potato club were organized in 1932. Yields obtained by the boys were strikingly larger than yields obtained by their fathers and neighbors from mixed and diseased seed. The boys had no trouble selling their potatoes for seed, about 1,000 bushels being sold the first year, 3,000 bushels the second year, and 5,000 bushels this year.

Potato Shows—The second annual State Certified Seed Potato Show was held in Baltimore in connection with the meeting of the Maryland Farm Bureau-Maryland Agricultural Society, and the third annual Garrett County Potato Show was

held at Oakland. Both shows were well attended and created a great deal of interest in produciton of potato seed of superior quality.

FORESTRY

MORE THAN 2,000,000 acres of land in Maryland are occupied by forests, which is about one-third of the total land area of the State. It is estimated that an income of close to $6,000,000 annually is received from forest products. In addition the forests serve an important function by way of conservation of water supplies, protecting rugged lands from washing, prevention of floods, fostering wild life, etc.

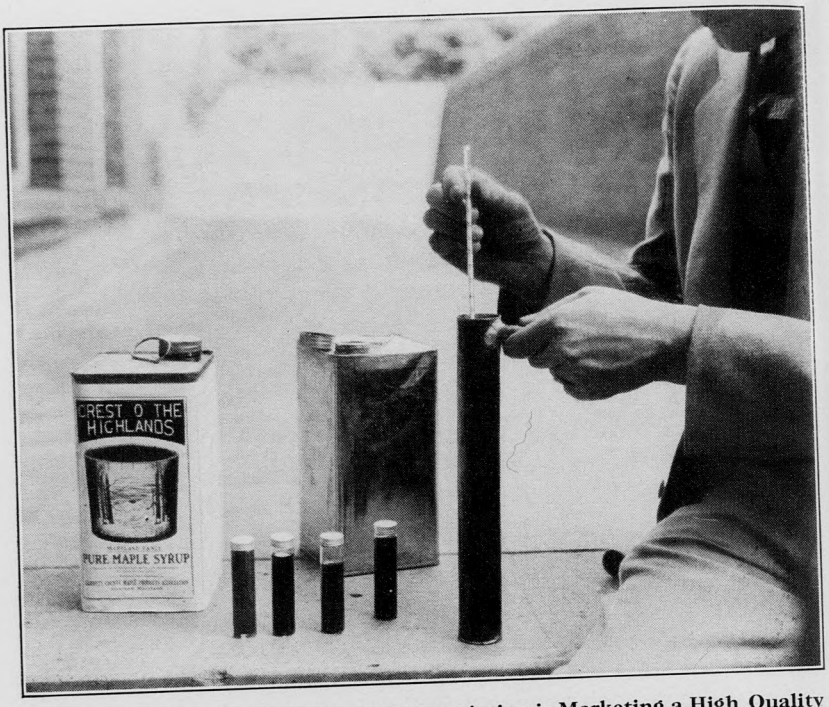
Extension activities in Forestry during the year included: (1) Woodland Improvement, (2) Marketing of Forest Products, (3) Reforestation of Submarginal Lands, (4) Maple Syrup Production and Marketing, and (5) Junior Forestry Work.

Particular emphasis was placed upon Woodland Improvement and results were most gratifying. Junior Forestry work with 4-H club boys and vocational agricultural students was started during the year and indications point to a greater demand for this type of work.

Woodland Improvement—Instruction in developing profitable farm woods was given 178 farmers by means of 13 "schools in the woods," which were held in eight counties.

Fifteen demonstration tracts and five plots were set up in nine counties in order to provide local examples of good farm forestry practice. Individual instructions and suggestions on profitable forest management were given 46 farmers in their own woods. It is estimated that at least 100 farmers have started this year on a program of building up more profitable woodland as a result of information supplied to woodland owners. Such information was given 192 owners who had 12,000 acres of woods.

Marketing Forest Products—Methods of profitable marketing were outlined at the 13 "woods schools," including the estimating and marking service of the State Department of Forestry.

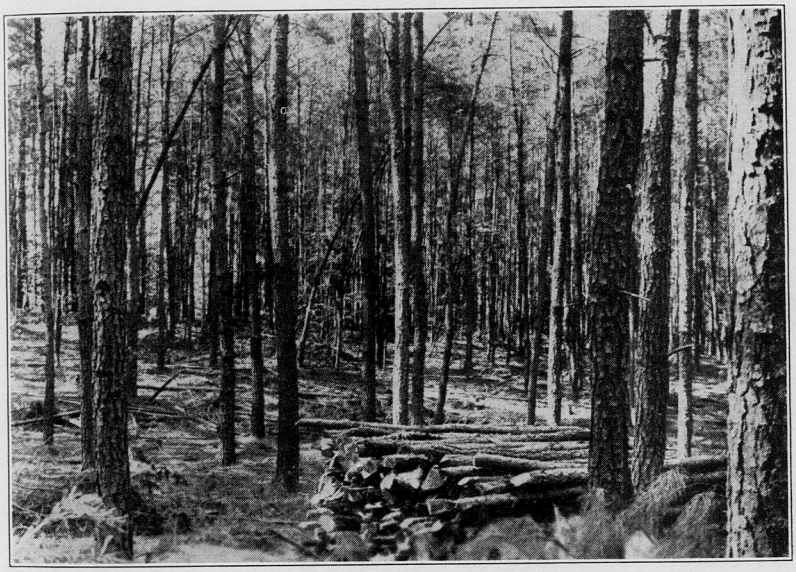


The Garrett County Maple Products Association is Marketing a High Quality Product that is Inspected and Graded by Federal-State Inspectors.

Making the "Rounds" in a Maple Grove. This Industry is Adding Materially to the Income of Garrett County Farmers.

A survey of forest products' prices and demands throughout the State was started and the first summary report was issued in October. It is planned to issue market news summaries every four months, in order to supply data on prices of forest products to all woodland owners who are interested.

Reforestation—Low prices of merchantable timber and scarcity of available cash have lessened temporarily the interest in forest planting. Six planting demonstrations were estab-



A Portion of Four Cords of Wood that Were Cut from a Quarter-Acre Plot. About 750 Trees Per Acre Were Removed and Approximately 500 Trees Per Acre Were Left.

lished and ten areas were examined and recommendations for planting were prepared. A survey and study of the older plantings in the State was started and 50 plantings, with a total of 322,750 trees, were inspected and progress reports prepared. Considerable interest has been shown in establishing plantings for Christmas tree production and for production of fence posts. Demonstrations in both of these types of plantings are under way.

Maple Syrup Production and Marketing—The new trade name, "Crest-O'-The-Alleghanies," adopted by the Garrett County

Maple Products Association, was filed and copyrighted. A study of problems connected with syrup spoilage was made and remedial suggestions offered. As a result of urging the use of small glass cantainers, a number of producers marketed a portion of their product in that form. Plans for a concrete storage tank for sugar water have been prepared and will be available in the near future.

Junior Work—Lectures and field trips were given to 144 vocational agricultural students in two Baltimore County schools. A suggested outline for a ten-unit short course in forestry for vocational students was prepared. Instruction in forestry was given to 48 boys at the Harford County 4-H Club Camp. Forestry lectures in two Talbot County high schools were attended by 129 students. A 4-H forestry club was organized in Washington County and started on a four-year program including identification and appreciation, forest planting, measurement and management.

Other Activities—Among these are included such activities as, diagnosing and suggesting remedies for ailing trees, compilation of figures on the value of forest products on Maryland farms, a street tree survey for Cottage City, a survey of the trees on the University campus, news articles on forestry subjects, and miscellaneous services.

CANNING CROPS

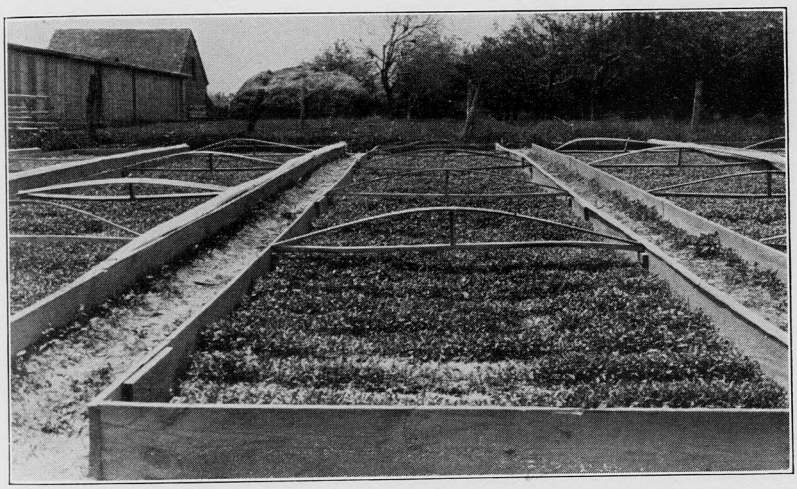
CANNING crops work included extensive demonstrations with the important crops grown for canning. Projects designed to stimulate interest, improve quality, and lower production costs were carried on in all counties in which canning crops are of major importance.

Acreages of all crops grown for canning were reduced in 1932, due to losses sustained the two preceding years, low prices offered for raw stock and canned goods, and generally unsettled market conditions.

Special attention was given to production of tomato plants for early field planting. Outstanding progress was made in this project until 1930, but economic conditions had caused interest to lapse somewhat during the last two years and it was necessary to again stress the importance of early planting.

Varieties—Extensive tests with Pritchard, Marglobe, and other varieties of tomatoes were conducted in all canning crop counties to determine the time of maturity, yield and quality for canning purposes. In one county the Greater Baltimore was also included in the test.

Ten-Ton Tomato Club — The Maryland Ten-Ton Tomato Club Contest was conducted for the fifth year, with 113 growers enrolled from eleven counties. Eleven growers finished the contest with yields above ten tons to the acre and became



Cloth-Covered Coldframes Have Enabled Tomato Growers to Increase Yields Materially.

members of the Ten-Ton Club. The three growers who made highest yields received gold watches as prizes.

Certified Seed—Specialists in canning crops cooperated with the Tri-State Packers' Association in production and saving of certified Marglobe tomato seed. A total of 947 pounds of seed was saved and will be available to canners and growers in the State. Stock seed production and variety improvment work was carried on with Marglobe, Tri-State and Prichard varieties. It included individual plant selections and progeny-row tests for improvement of stock seed.

Tomato Grading—Work was carried on with tomatoes to determine why some fruit does not make the No. 1 grade and

the reason for deterioration of tomatoes to lower grades during the harvesting period. A survey of farm practices was conducted to determine the effect of different practices upon yield and grade of tomatoes delivered to canneries.

Wilt-Resistant Peas—Tests with wilt-resistant strains of peas were conducted on wilt-infested land to compare their performance as to yield and disease resistance with susceptible strains. Included in the resistant strains was the Maryland Alaska, a selection developed recently at the University of Maryland. The wilt-resistant strains gave an average increased yield of 27.8% above the susceptible strains.

The effect of gypsum on control of root-rot diseases of peas was tried in two demonstrations.

Snap Beans—A variety test of snap beans was conducted to determine the varieties best adapted for the canning industry in Maryland. Records were taken during the season on yields, quality and resistance to diseases. The effect of frequency of harvesting snap beans on yield, quality and cost was determined in connection with these tests. Under the present system of picking and selling beans on a flat rate basis, it apparently does not pay to harvest snap beans as often as twice a week.

Work with lima beans consisted largely in comparing home-grown and Western seed with respect to germination, yield and disease infection. In most cases, home-grown seed gave better germination than Western seed, but due to the likelihood of losses from seed-borne diseases, it is questionable if home-grown seed should be used by Maryland canners.

Corn Grading—With a view to testing the tentative grades suggested for sweet corn grading, a demonstration was conducted at three large canning factories during the season. It is hoped that this work can be continued and that eventually our sweet corn can be graded with satisfaction to the grower as well as canner.

TOBACCO

TOBACCO PRODUCTION in Maryland is confined primarily to five counties in the section known as Southern Maryland. In those counties it is a major cash crop. The cash return to

The Fine Quality of Maryland Tobacco Has Made its Production an Important Industry Since the Earliest Days of Colonization.

Spearing Tobacco. About Six Plants Are Speared on a Stick, 4 Feet by 4 Inches.

growers in 1932 is conservatively estimated at $4,800,000. This is a decline from the average annual value of $6,250,000, due to economic conditions.

Major features of the program undertaken during the year included: (1) Efforts to encourage use of improved varieties; (2) Demonstrations of better seed and plant bed practices; (3) Encouragement of soil improvement methods; (4) Better housing facilities; (5) Organization work; (6) Improvement in marketing; (8) Work with 4-H tobacco clubs, exhibits and tours.

Cooperating with the specialist in carrying out this program were the county agents in the five counties, the Maryland Tobacco Growers' Asociation, the Office of Tobacco Investigations of the U. S. Department of Agriculture, and the University of Maryland Experiment Station.

Varieties—The value of improved varieties was emphasized by ten demonstrations. Several varieties were outstanding, showing more than $50 greater cash return per acre than miscellaneous types commonly grown. Only a comparatively small percentage of tobacco growers use the best variety for their soil and market, and possibilities in this line of work are very great.

Seed and Plant Bed Practices—Eighty-four demonstrations with seed and plant beds were conducted to show the economic value of sanitation, good equipment, and good management. The chief features of this work were: Mechanically cleaned and tested seed, sterilized seed bed soil, insect and disease control by spraying, improved muslin covers, side boards and fences.

Soil Improvement—Information regarding the proper kinds and amounts of fertilizers, use of legumes, and other methods of soil improvement and management continued as an important phase of the work. Although it is more difficult to measure progress in this line than in some of the others, it is certain that growers generally are giving much more careful attention to methods employed in handling their soils.

Housing Facilities—A number of barn plans were distributed and used in connection with construction of new barns, as

well as in repairing and altering old buildings. More than 20 tobacco stripping rooms were constructed for the purpose of demonstrating an economical method of meeting the sharp demand for better assorted tobacco.

Marketing—Much time was devoted to improvement of marketing methods. Committee meetings of growers in each county were held and programs were made to meet production and marketing problems. Loyalty meetings were arranged for the purpose of assisting the cooperative association in increasing its receipts of tobacco. Meetings of business and professional men were held also for the purpose of establishing and clarifying the mutual interest that exists between them and the growers. A number of committees discussed the necessity for local grading and packing houses and tentative plans were worked out for operation of such plants.

A meeting of Baltimore buyers and representative growers resulted in more friendly feeling between the two groups. The buyers expressed a desire that action be taken to correct poor stripping, bad packing, inadequate State sampling, and sample plucking by the several tobacco salesmen.

Other Activities—One hundred thirty-four 4-H tobacco club boys were assisted in producing good tobacco. Tours of adults and juniors to the tobacco sub-station at Upper Marlboro were conducted successfully and with large numbers attending.

A tobacco bulletin, "Tobacco Culture in Maryland" was written by the specialist and will be ready for distribution early in 1933.

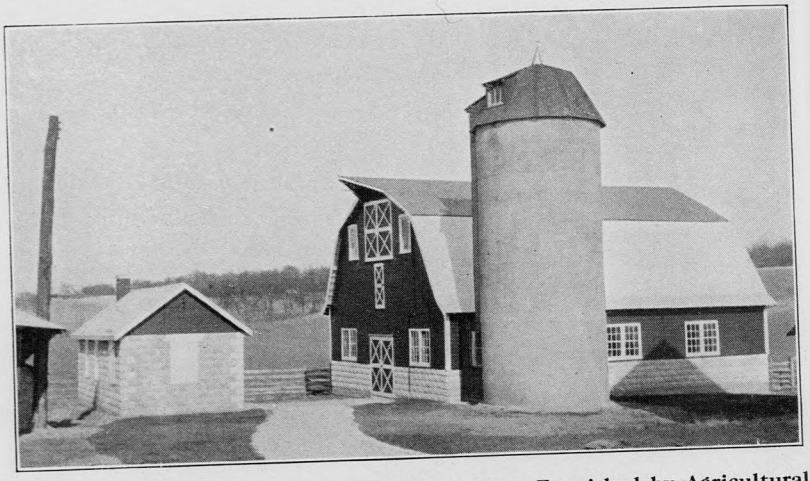
AGRICULTURAL ENGINEERING

IT IS ESTIMATED that buildings and equipment on Maryland farms involve an investment approximately three-fourths as great as the investment in land. Extension work in Agricultural Engineering is assisting farmers in obtaining greater efficiency from this large investment.

Farm Structures—A project designed to furnish plans for all types of farm buildings was started in 1930. This project continued to expand and 731 plans for farm structures were distributed in 1932. These plans insure buildings designed for

economy, convenience, and adaptation to the climate. Through cooperation of the Maryland-Virginia Milk Producers' Association, plans and services were furnished for 89 barns and 109 dairy houses. Late in the year a similar project was started with the Inter-State Dairy Council of Philadelphia and will eventually aid some 6,000 Maryland farmers. Several special projects of considerable size were directed and five new plans were drawn and added to the set of standard plans.

Farm Drainage—When assistance is required, a survey is made and instructions are given, together with figures and a



Typical Farm Lay-out, Constructed From Plans Furnished by Agricultural Engineering Specialists of the Extension Service.

map of the drainage system. In spite of the third successive dry year, three drainage projects were completed in 1932.

Other Services—Water systems that modernize farm homes are continually being installed in Maryland farm homes. More than twenty consultations were held during the year and an increase is anticipated when the ground water supply is normal again.

Electricity is in great demand and instruction is necessary regarding its efficient application to the farm home and business. A study of electrical uses and current consumption on 27 farms in six Maryland counties was continued until November 1, and the information was made available to all interested.

Two tours of the National Rural Electric Project were conducted and two electric exhibits were displayed at fairs.

Present economic conditions emphasize the need for farm repairs and efficient equipment. Many consultations were held and much assistance was given in this line, including labor-saving equipment and home feed grinding.

FARM MANAGEMENT

TWO PROJECTS were carried on during the year: (1) Outlook, and, (2) Farm Accounting. Confronted with the prospect of a continued low price level, farmers found great need for information about the economic outlook for agriculture and for accurate records which would serve as a basis for planning their business.

Outlook—Meetings were held in all of the 23 counties by the extension economist, county agents, subject-matter specialists and members of the Department of Agricultural Economics. In all, 90 meetings were held with a total attendance of 8,603. An outlook report for Maryland was prepared and distributed and the information contained in it was disseminated by radio talks and press releases.

Farm Accounting—The goal in this project was 10 farm accounts in each county, or a total of 230. The goal in five years is 1,250 farm accounts.

Farm account schools were held in 21 counties and 204 accounts were started. Each farmer was given assistance in making his inventory and the farm account book was explained in detail. A visit was made to each farmer at least once, and most of them twice, during the year and each account book was checked and brought up-to-date.

During January, February and March, 1933, the extension economist and county agents will assist each farmer to make an inventory, close his account, summarize and analyze each account and prepare a summary or average of all accounts to be used as a standard against which each farm account will be compared and suggestions made to each farmer for improving his business.

Present indications are that 75% to 80% of those who started will complete their acounts.

ECONOMICS AND STATISTICS

THE FACT THAT MARYLAND had the benefit of more complete service during the past year than was available for a number of years proved exceedingly helpful. The statistical information was especially valuable as a basis for charts and graphs and greatly assisted in the presentation of economic facts associated with Maryland agriculture and economic conditions.

The Extension Service maintains a specialist in this line of work and the Division of Crop Estimates of the U. S. Department of Agriculture stations an agricultural statistician at the University of Maryland, who devotes his full time to this line of work in Maryland. Last July the task of making monthly farm price reports was transferred from the Washington office to this office and in January, 1933, the truck crop estimates were also transferred to this office. It has been found that by coordinating the work on all these various types of reports in this office it is possible to better interpret the individual reports and also that better cooperation is obtained from correspondents throughout the State. It is a pleasure to express the appreciation of the Service for the cordial and able cooperation received from Mr. Richard Ross, the Statistician in Charge.

HOG CHOLERA CONTROL

THE AUTHORITIES IN CHARGE of hog cholera work report that Maryland in 1932 had fewer outbreaks than any year since the work was started with the exception of 1930. This is gratifying, as early prediction indicated severe losses. An average of 537 outbreaks per year has been reported for the last 14 years; in 1932 only 280 outbreaks were recorded. It is apparent that employment of the Maryland Plan for Control of Hog Cholera is becoming more wide-spread in its application and is producing satisfactory results.

Of the 280 outbreaks reported during the last year, 254, or approximately 90%, were primary or new outbreaks of the disease. Only 20, or about 7%, were secondary or due to spread to nearby premises. As in the past, the great majority of outbreaks were caused by feeding cholera-infected pork

scraps in kitchen refuse. Other potent causes were the purchase of new stock from unknown sources; permitting sick hogs to run at large; failure to properly bury hogs dead of cholera; and improper use of the serum-virus treatment. The much-mentioned spread of cholera by dogs, buzzards, trucks, and the like, undoubtedly occurs but rarely.

Backyard outbreaks, where a few hogs are kept in a small pen or lot, accounted for 214 cases; 66 occurred on farms where hogs are bred and raised. Garbage feeding plants were maintained on 6 of these farms. For the last ten years, outbreaks on such farms have averaged less than .7 of 1% of swine producing farms of the State. Counties adjacent to large urban centers experienced relatively many more outbreaks than typical rural counties. Garbage hauled from the cities and fed to the hogs caused outbreaks involving large numbers of animals. Also, numerous home owners keeping a few hogs for home use under unsanitary conditions started many outbreaks. In these areas many are in and out of swine production so rapidly that cooperation with them is difficult. In the more rural sections, where swine production is a regular part of the farm operations, the danger of cholera and its spread with attendant loss is well recognized. The active help and cooperation of these groups has done much to keep Maryland losses well below those of neighboring states, although relatively little money is spent on immunization in comparison. The excellent cooperation of county agents, veterinarians, and interested farmers with those charged with the control of this disease has been invaluable in keeping losses at a low figure.

GENERAL EDUCATIONAL EXTENSION

MANY REQUESTS WERE received for speakers on topics not closely allied with the practical problems of agriculture and home economics and for work in fields not directly associated with those subjects. A growing interest in the more general and popular subjects is evident and the services of the specialist in Extension Education have been in great demand. Other specialists of the University have been called upon for considerable work in their several lines and speakers from the Department in Washington and elsewhere have assisted in meeting this rapidly developing desire for adult education.

Visual Instruction—The greatest development in the use of visual instruction was in the expansion of our file of charts and graphs. As mentioned elsewhere, the Service is well equipped for preparing material of this type and both specialists and agents are finding it exceedingly effective. Films were distributed by the Service as heretofore, being secured principally from the U. S. Department of Agriculture. Some investigation was made of apparatus for use of sound films, but circumstances have not permitted adoption of this type of visual instruction.

Radio Service—Two regular weekly periods of broadcast were maintained throughout the year and a number of radio talks were given by members of the staff at irregular intervals and in connection with some special event. Greater attention was given to preparing material especially adapted to presentation by radio, rather than to expansion in number and length of broadcast periods. There is possibility of greatly expanding this line of work when facilities are available for properly preparing material, as commercial broadcasting stations are favorable to granting much more time.

GENERAL ADULT EDUCATION

DEMAND FOR WORK in the general field of adult education has continued, notwithstanding the pressing economic situation surrounding a large percentage of the people. Rural people are desirous of continuing their development in other fields than those in which it has been possible to offer them service and the demand for further education coming from adults in other vocations is increasing constantly. In response to many requests, the Extension Service made a very meagre beginning in offering general adult education a little more than a year ago. Part-time specialists were employed in two fields —music and the sociological phases of psychology.

The Service has cooperated with the States of West Virginia and Pennsylvania in development of the Allegheny Tableland Association, operating in Garrett County with Mountain Lake Park as a center. This has taken the form of general adult education and recreational work. Community music, the musical festival, the Deep Creek Lake pageant and the Mountain

Lake Institute have served to bring the people of the Tableland area together. It is hoped that substantial economic results will follow.

Circumstances have not permitted any further development of the work, but when conditions are such that facilities may be provided, there is a vast field awaiting this Service and this Institution is meeting somewhat adequately the evident desire for work in adult education, particularly in the cultural subjects, such as the arts and sciences.

MISCELLANEOUS WORK

THE SERVICE IS especially indebted to Dr. H. J. Patterson, Director of the Experiment Station and Dean of the College of Agriculture, for his cordial support and helpful suggestions at all times. Acknowledgment is made also of the miscellaneous Extension work conducted by specialists connected with other branches of the Institution. Included among these are Profesor J. E. Metzger, Dr. W. B. Kemp, Dr. E. M. Pickens, Dr. DeVoe Meade, and Professors Geary Epply, B. E. Carmichael, L. W. Ingham, W. E. Hunt, and others.

STATE HORTICULTURAL DEPARTMENT

ADMINISTRATION OF THE State Horticultural Department has been for many years under the direction of the Extension Director. Such arrangement has proved mutually helpful. It is difficult in many cases to segregate regulatory activities in control of insect pests and plant diseases from activities designed to give information for their control. Such difficulties are obviated when specialists handle both lines of work. A more comprehensive statement of the activities conducted by the State Department of Horticulture is presented in the biennial report to the President.

CONCLUSION

THE PROGRESS OF the Service during the past year, even under the difficult conditions confronting agriculture, has been commendable. The cooperation of the counties in the face of drastic demands for reduction in taxes demonstrates an appreciation by the appropriating bodies of the service that is being rendered. We have been able to maintain our force in full during the year. We trust that the depression has reached its lowest point and that a gradual improvement will be experienced. It is felt that we must be satisfied and live happily with less returns. We should guard our living standards that have been built up through these many years in Maryland.

The Service is indebted to the officials in charge of Extension work in the U. S. Department of Agriculture for their sympathetic cooperation. Likewise, we are indebted to the State farm organizations—the Grange and Farm Bureau—for their assistance and encouragement.

I desire, also, to express my deep appreciation to all members of the staff and the office force for their loyal support and assistance in directing the work of the Service. Grateful acknowledgment is made of the splendid support and sympathetic interest of President R. A. Pearson in furthering Extension work in the State.

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR

SUMMARY STATEMENT OF EXPENDITURES BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1932

Projects	Total	Federal Funds			Offset Funds	Funds Not Used As Offset		
		Smith-Lever	Capper-Ketcham	Additional Cooperative		College and State	County	Other
Administration	$18,013.73	$6,336.06	$	$	$6,069.00	$5,600.67	$	$8.00
Publications	15,019.50	6,622.34		404.40	2,825.96	5,163.60		3.20
County Agent Work	131,318.55	35,455.22	15,290.00		28,396.76	13,486.66	38,529.00	160.91
Home Demonstration Work	104,193.53	10,940.17	10,786.69	6,714.51	30,550.14	9,504.92	29,253.00	6,444.10
Nutrition	3,177.41	1,370.53			1,718.31	88.57		
Clothing	3,554.82	1,465.59			2,013.51	73.71		2.01
Boys' Club Work	6,833.67	2,105.67			2,950.82	331.01		1,446.17
Agronomy	5,376.83	1,393.96			3,001.81	981.06		
Animal Industry	7,571.20	1,919.82			3,359.32	2,263.90		28.16
Horticulture	10,817.69	6,059.59			3,517.62	1,217.37		23.11
Dairying	10,907.75	2,010.81			2,917.81	4,907.41		1,071.72
Rural Organization and Marketing	13,034.29	581.32			1,000.00	11,306.06		146.91
Poultry	5,379.72	557.32			2,857.64	1,964.76		
Entomology	36,412.09	705.77				35,584.17		122.15
Pathology	6,490.90	610.01			78.33	5,586.78		215.78
General Educational Extension	1,643.85					1,357.57		286.28
Canning Crops	8,738.34	207.35				8,345.99		185.00
Farm Forestry	2,144.23				1,979.95	92.30		71.98
Poultry Marketing	2,748.13			1,684.73		1,063.40		
Rural Engineering	4,148.68	800.00		2,393.93		954.75		
Crop Statistics	2,031.20			1,970.92		60.28		
Economics and Farm Management	3,240.04			2,831.51		408.53		
Apiculture	1,370.27	85.29			46.48	1,235.00		3.50
Total Expenditures	$404,166.42	$79,226.82	$26,076.69	$16,000.00	$93,283.46	$111,578.47	$67,782.00	$10,218.98

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1932

	Personal Service	Supplies and Materials	Communication Service	Travel Expenses	Transportation of Things	Printing, Binding and Cuts for Publications	Furnishing of Heat, Light, Power and Electricity	Equipment	Miscellaneous	Total
Administration	$9,778.26	$1,700.17	$1,279.09	$95.83	$1,013.39	$------	$3,180.96	$475.28	$490.75	$18,013.73
Publications	7,597.49	485.40	301.40	74.48	64.46	6,478.56	------	11.20	6.51	15,019.50
County Agent Work	101,313.61	4,691.92	10.95	25,021.77	6.32	------	49.80	146.68	77.50	131,318.55
Home Demonstration Work	76,703.54	5,325.73	36.07	21,070.38	37.62	------	10.50	49.45	960.24	104,193.53
Nutrition	2,783.37	4.10	2.10	373.16	1.88	------	------	12.80	------	3,177.41
Clothing	2,881.70	158.82	5.61	490.12	1.62	------	------	16.95	------	3,554.82
Boys' Club Work	4,399.28	155.13	10.15	2,225.74	.62	------	------	------	42.75	6,833.67
Agronomy	3,980.34	73.07	30.85	1,279.15	13.42	------	------	------	------	5,376.83
Animal Industry	6,157.00	2.87	2.90	1,381.48	.12	------	------	26.83	------	7,571.20
Horticulture	9,400.00	88.71	31.55	1,273.93	1.49	------	------	22.01	------	10,817.69
Dairying	8,328.00	43.53	------	2,535.70	.52	------	------	------	------	10,907.75
Rural Organization and Marketing	10,085.04	462.66	228.18	1,746.80	3.49	------	300.00	43.00	165.12	13,034.29
Poultry	4,250.00	139.50	40.19	922.02	1,36	------	------	14.00	12.65	5,379.72
Entomology	28,415.35	921.66	636.95	3,978.15	41.00	------	1,500.00	634.73	284.25	36,412.09
Pathology	4,665.32	102.04	2.85	1,677.36	29.33	------	------	------	14.00	6,490.90
General Educational Extension	844.70	170.98	------	454.58	52.32	------	------	10.00	111.27	1,643.85
Canning Crops	6,211.64	140.41	49.51	1,786.09	4.12	------	202.50	79.00	265.07	8,738.34
Farm Forestry	1,299.90	33.10	30.08	649.84	5.66	117.65	------	8.00	------	2,144.23
Poultry Marketing	1,900.00	------	------	843.13	------	------	------	5.00	------	2,748.13
Rural Engineering	2,950.00	137.35	.75	1,053.83	------	------	------	6.75	------	4,148.68
Crop Statistics	1,940.00	------	------	88.95	------	------	------	------	2.25	2,031.20
Economics and Farm Management	2,500.00	282.25	------	457.79	------	------	------	------	------	3,240.04
Apiculture	825.00	12.50	.30	532.47	------	------	------	------	------	1,370.27
Total Expenditures	$299,209.54	$15,131.90	$2,699.48	$70,012.75	$1,278.74	$6,596.21	$5,243.76	$1,561.68	$2,432.36	$404,166.42

COUNTY DEMONSTRATION AGENTS—(Continued)

Prince George's	*W. B. Posey	Upper Marlboro
Queen Anne's	*E. W. Grubb	Centerville
St. Mary's	*G. F. Wathen	Loveville
Somerset	*C. Z. Keller	Princess Anne
Talbot	*R. S. Brown	Easton
Washington	*M. D. Moore	Hagerstown
Wicomico	*J. P. Brown	Salisbury
Worcester	*R. T. Grant	Snow Hill

Assistant County Agents

Allegany	*Milo S. Downey	Cumberland
Baltimore	*W. H. Carroll	Towson
Harford	*G. W. Clendaniel	Bel Air
Kent	*Stanley Sutton	Chestertown
Montgomery	*A. A. Ady	Rockville
Prince George's	*P. E. Clark	Upper Marlboro

Local Agents

Southern Maryland	*J. F. Armstrong (Col.)	Seat Pleasant
Eastern Shore	*L. H. Martin (Col.)	Princess Anne

COUNTY HOME DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	*Maude A. Bean	Cumberland
Anne Arundel	*Mrs. Georgiana Linthicum	Annapolis
Baltimore	*Anna Trentham	Towson
Calvert	*Elaine Knowles	Prince Frederick
Caroline	*Bessie M. Spafford	Denton
Carroll	*Agnes Slindee	Westminster
Cecil	*Priscilla B. Pancoast	Elkton
Charles	*Mary Graham	La Plata
Dorchester	*Hattie E. Brooks	Cambridge
Frederick	*Helen Pearson	Frederick
Harford	*Catherine Maurice	Bel Air
Howard	*Myrne L. Hendry	Ellicott City
Garrett	*Margaret Kirby Burtis	Oakland
Kent	*Helen M. Schellinger	Chestertown
Montgomery	Edythe M. Turner	Rockville
Prince George's	*Ethel M. Regan	Hyattsville
Queen Anne's		
St. Mary's	*Ethel Joy	Leonardtown
Somerset	*Hilda Topfer	Princess Anne
Talbot	*Margaret Smith	Easton
Washington	*Ardath E. Martin	Hagerstown
Wicomico	*Marian G. Swanson	Salisbury
Worcester	*Lucy J. Walter	Snow Hill

Assistant County Home Demonstration Agent

Frederick	*Ernestine Chubb	Frederick

Local Home Demonstration Agents

Charles, St. Mary's, Prince Georges and Montgomery	*Mrs. Arminta Watson Dixon	Washington, D. C.
Somerset	*Mrs. Justine Clark	Princess Anne

Garden Specialist

Baltimore, Md.	Mrs. Adelaide Derringer	3 East 25th St.,

*In cooperation with U. S. Department of Agriculture.
†Part-time Specialists.

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TECHNOLOGY AND SCIENCE ROOM